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Precision SHOOTING



a magazine for Shooters by Shooters

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MORRIS F. DUNPHEY

Morris F. Dunphey, Bangor, Maine, long-time secretary of the Pine Tree State Rifle and Pistol Association, was killed in a head-on auto collision in Falmouth, Maine, on May 14th. A sportsman in the best sense of the word, Dunphey was an energetic worker and active promoter of shooting for both adults and juniors. Maine shooting has suffered a very real loss.

JOE GLAAB

Joe Glaab, one of New Jersey's best known smallbore shooters, gunsmith and instructor of junior shooters, died the latter part of April. Joe helped everybody all the time. He was in bed when he heard a car stuck next door; he got up, went over, pushed on the car and dropped dead.

Fred Triggs

J-B BORE CLEANING COMPOUND

I have been using the J-B Non-Imbedding Bore Cleaning Compound, made and distributed by Jim Brobst, 31 So. Third St., Hamburg, Pa., for cleaning all of my center-fire rifles for the past two months. Used as recommended, I have found it to clean a rifle bore cleaner, quicker, than any other cleaning system that I have ever used. It is the only cleannig system that I have ever used which will end up with an unsoiled cleaning patch.

The J-B compound seems to be most quickly effective in the .22 caliber high velocity rifles, in which built up fouling sometimes results in accuracy falling off. My experience in these small-bores is that a third patch, at most after a scrubbing with one application of J-B results in a clean patch. In the larger bores it seems to be not quite so quickly effective, but does do an equally thorough cleaning job.

I had Dan Hufnail (HUFNAIL BULLETS) also test the J-B Compound and he reports the same good results that I have had. He also reports that J-B is very effective for cleaning brass with a minimum of effort.

I am personally well enough satisfied with the J-B Bore Cleaning Compound that I shall continue to use it until I find a better cleaning system for my rifles, if I do.

P. H. T.

FLYBUSTIN

The editor drove the nearly 300 miles down to Crawford Hollidge's Stepping Stones range on Cape Cod on May 5th to observe at first-hand the premiere of the "Flybustin" shooting game, participate in the shooting and get the reaction of shooters to this game and the target designed for it. (The target sighting point and flies distributed about it is illustrated full size on the magazine cover.) Some of the other shooters traveled as far or farther to attend the shoot.

First, some statistics and comments from Mary Hollidge:

There were five full relays of competitors (five to a relay) as well as many interested visitors who tried the game also, some with their own guns and others using those which were supplied in the usual spirit of benchrest shooters.

Six of the top ten shooters were using 222's, and the others 219's. Prize money went to three fellows using 222's, all of whom are pretty well known in benchrest circles. Among the 222 shooters, there were two heavy varmint guns and one light varmint, and a new shooter from Syracuse, New York, Dr. John Sanborn, came very close to placing in the top ten, using a varmint rifle in 243 caliber. Two Hart barreled Shilen rifles with the new custom action placed 1st and 5th respectively in the hands of Gordon Harris and Artie Shaw.

away was a student at the Cape Cod Preparatory School named Luiz DeMello. He will be going home to Brazil in another couple of weeks and telling his friends there about benchrest shooting and "Flybustin."

Bob Smith brought Andy Brower to the matches and competition was very close between them with Smith trailing by only one fly and three points for third place. Under the circumstances, Crawford Hollidge was very satisfied with fourth place, followed by: 5th Artie Shaw, 6th J. W. Baldwin, 7th Graydon Fenner, 8th Arthur Thifault, 9th Luiz DeMello and 10th Douglas R. Hall.

Now, some comment and observation by the editor:

To give a better idea of the excellence of the shooting; you may note in the photos that at least 90 of the 100 yards of the Stepping Stones range is over water, something new and unusual for most of the shooters. It was bright and sunny Saturday afternoon, cool, a strong, gusty wind at the start of match shooting which diminished in velocity late in the afternoon. It was sunny Sunday morning with a light wind beginning by the time match shooting started. The wind increased as match shooting progressed, varying in velocity and direction, it clouded over and there was a light drizzle of rain before the shooting was over. Conditions wouldn't be called extremely difficult but did make it a sporting proposition to hit those pesky flies.



The five-bench firing line at Crawford Hollidge's Stepping Stones range near Marston Mills, Mass. (Cape Cod).

Harris busted 27 flies in the 8 matches to win first place with a score of 158. (The 8 match possible score was 200.) Since there are five flies on each target, this amounted to busting three flies out of five on every target.

Our old friend from the Catskills, the eternally young Andy Brower, had glass-bedded his old 222 in preparation for this match and actually busted more flies than Harris but because his score was only 152, took second place. For a time he was setting quite a pace as he busted 15 flies with as many successive shots.

Our youngest shooter was George Donaldson, 14 years old, who didn't fire the first day, which was too bad as he had a very creditable showing Sunday and we, as well as his great uncle Harve were very proud of him.

The shooter whose home was furthest

Competitors ranged from young George Donaldson to men well into their 70's and from those having their first try at benchrest shooting to very capable competitive shooters with years of match shooting experience. The reaction to the "Flybustin" game and target ranged from good to enthusiastic; I didn't hear anyone say they didn't like it. Those I questioned liked the new style aiming point in the center of the target for sighting shots and considered it an improvement over the solid border hollow square aiming point which is standard on official benchrest targets.

The Flybustin target for benchrest shooting at 100 yards provides a very real challenge to skillful shooters with the best of equipment. As the game was set up at this match; paying 25¢ for each target with an immediate payback of 5¢ for each killed fly (any hit touching the fly's body), the

target is challenging and the game interesting for those with not quite match-winning skill, ordinarily. Aiming on the flies at 100 yards can be done with a 10X scope but that low power is definitely a handicap when competing against the higher power scopes. For shooting on this target with light varmint and sporter rifles with low power scopes, shortening the range distance would be advisable. That would be quite practical even on established ranges since only inexpensive frames for holding the targets are necessary and they could easily be put up and taken down.

Flybustin may not, probably will, not, be popular with confirmed bench rest group shooters. The mechanical "back-to-battery" rests would be useless for this game since each shot is fired at a different aiming point. Flybustin is not designed or intended as any "main-dish" in target shooting but, rather, as a welcome, interesting and challenging change from the routine target programs.

In this writer's opinion, Flybustin will be at its best for club or local area shooting events. Since range equipment for Flybustin is simple and relatively inexpensive, it would be an interesting part of a shooting program for new clubs or for building up interest prior to forming a new club. Flybustin might also be a welcome additional event at the smaller conventional bench rest matches.

IN CALIFORNIA . . .

Tune up your deer rifle, your bench rest rifle, your target rifle and yourself at the

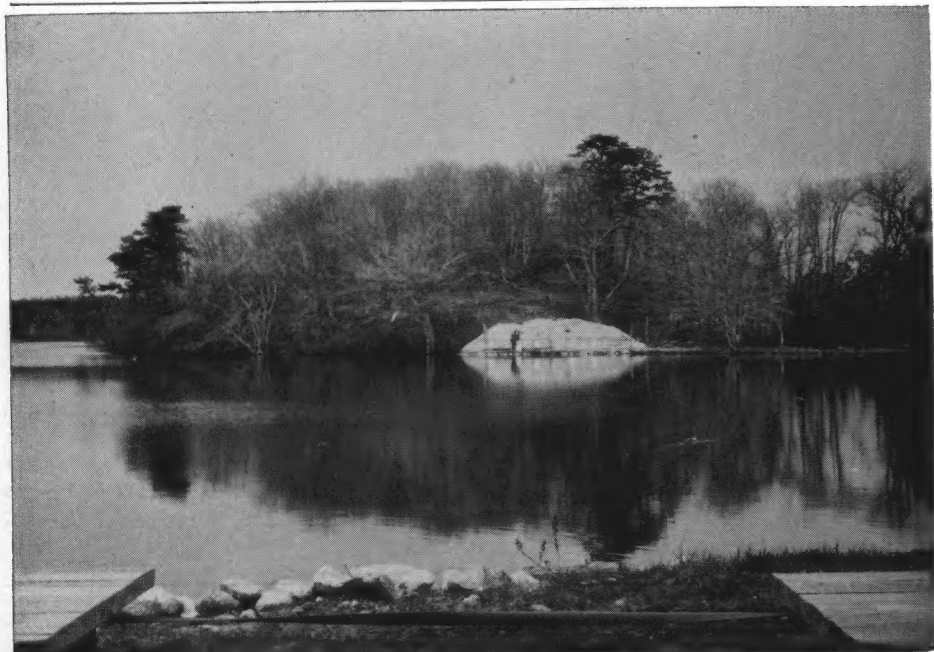
HUTTON RIFLE RANCH . . .

We supplement our trajectory tests which include drop, muzzle velocity, pressure and accuracy reports with the new Powley Computer, Pressure Charts and String Charts. Because of the three computer and chart developments by Homer S. Powley, and now available for the first time, the rifleman may take a cartridge he has never seen before, calculate the most efficient load, determine velocity, breech pressure and the path of the bullet all the way to 500 yards. We regard this as the greatest step upward the handloader-rifleman has had since B. E. Hodgdon brought out his slow-burning powders ten years ago. In fact this has not been possible since the invention of gunpowder. We do not sell powders but we do carry the Powley Computer for Handloaders for \$3.50 each, prepaid. This gives you muzzle velocity but not the exact pressure. We will be glad to make all of the computer and chart calculations for you—load, velocity, pressure, trajectory—for \$10.00. Send your empty case with bullet—unloaded. Mark seating depth faintly on bullet with a file. State exact barrel length. Strong bolt actions or single shots only.

In addition we are able to confirm these findings with the Avtron Chronograph and actual range test with surveyed distance. Write about this further service to Hutton Rifle Ranch, 1043 Greenleaf Canyon, Topanga, California.

The Hutton Rifle Ranch is

Official Range of GUNS and AMMO magazine
20 Covered Bench Rests with Spotting Scopes
Midway between Highway 101 and 101-A, in
Topanga Canyon, near Santa Monica, Calif.



Target runner changing targets at the butts of Stepping Stones range. No grass mowing chores between benches and targets on this range. The expanse of water takes the place of wind-flags—and can be just about as confusing.

This writer also thinks that Flybustin could be adapted for rimfire smallbore rifle shooting, but that will require some experimenting which he plans to do as he has time.

Presently the only known source of supply of the Flybustin targets is from its designer, Crawford H. Hollidge, Cotuit Road, Marstons Mills, Mass. Since the initial print order was relatively small, cost of the targets is more than would be the case if produced in large quantities. The targets are printed on good quality target tag-board. I think that \$5.00 would get a supply of targets sufficient for a good trial by a club or a small group of shooters. If the game sounds interesting, as I found it to be, better give it a trial and see if you like it.

P. H. T.

THIS-N-THAT

By Ted Smith

You might say I was raised under two schools of thought. Mother believed that to spare the rod would spoil the child. My father only struck little boys in self defense. Generally speaking, I must have learned quickly to adapt myself to this circumstance. Take for instance the signing of a report card. If it was an extremely good one I quickly took it to mother. If bad, I went straight to father. This served two ends. It just about equally divided this responsibility among them at one end, and saved wear and tear on my other end.

I believe now that this was a good situation in that while my mother probably could not have whipped any brains into my head, my father's understanding and dry humor is still helping me through. I remember once when I brought home an extremely bad card, even for me, he looked it

over carefully and remarked, "Son, if you only had sense enough to keep your mouth shut teacher never would have found out how dumb you really are."

Be that as it may, and known to me, still someone has to write for gun editions and it might as well be you and I. If you are afraid to write about something controversial, try sending in something of a non-controversial nature, as for instance an experience. An example might be of a thing that happened to me the other day. I met a good friend and we were discussing the Sierra award offered for the ten shot group, using a sporting rifle and low power scope. I asked him if he was going to try out for it. "Gosh no," he answered, "I don't mind being a liar but I sure don't need no medal to prove it." I didn't say that so don't jump on me.

Of course writing can't all be non-controversial and sooner or later an author is bound to say something with which you thoroughly disagree. Don't get mad and fly off the handle. Maybe he knows what he is talking about. Take this experience of mine.

During April I attended the 6th Army matches at Fort Lewis, Washington, where some four or five hundred GI's fired this annual match. To begin with they lined up in regimental style and from the best right down to the worst they very calmly and collectively marched up and down my back. Not satisfied with this they added insult to injury by feeling sorry for poor old gramp. The real ultimate came when a raw recruit offered to assist me with my off-hand position. Well, actually I went there expecting to get beat—nobody let me down!

Upon returning home I picked up my new copy of GUNS Magazine and right there blared across the front page in bold print was the caption, "WHY ARE GI'S BUM SHOTS," by Col. Askins. Now this man is a paid author; he probably believes what he wrote. I didn't get mad—not me. I started in very calmly to count:—10-9-8-7-6-5-4-3-2-1-BLAST OFF ** after which I went nicely into orbit. Me get mad—no sir—I just thought, "Pop, if he hadn't opened his mouth I never would have found out."

MADE-TO-MEASURE HANDGUN

by William E. Peterson

Almost all handguns come to you "as is," supposed to be fired the way they come out of the box. No modifications. And I'm not referring to those endlessly controversial factors such as weight and character of trigger pull, and shape of grip. But when it comes to barrel length, barrel weight, sight radius, you take what the manufacturer gives you or undertake a gun-smithing job. With most guns, anyway.

But not in the case of the High Standard pistol in Trophy or Citation models. These guns are unique in the wide variety of modification which they offer, most of it obtainable almost as easily as changing your coat. For some years now, High Standard have been making guns with a trick arrangement enabling the shooter to shuck off one barrel and replace it with another of different length, in less than half a minute. First efforts to make a fool-proof latch were only moderately successful, but in the afore-mentioned models they certainly hit the jack pot with a cam-latch that clamps down with a bull-dog grip and never loosens until you force it to release.

Four lengths of barrel are available— $4\frac{1}{2}$, $6\frac{3}{4}$, 8, and 10 inch. For casual shooting the $4\frac{1}{2}$ -inch barrel is probably satisfactory. For serious target work both the $6\frac{3}{4}$ and 8 inch barrels would seem indicated. A target aspirant who has both barrels enjoys the advantage of being able to check one against the other under the different conditions of match firing, and to select in each case the barrel which would give him the best score. In addition to varying barrel lengths, there are barrel weights—two of them, one heavier than the other—which can be clamped at various positions under the barrel.

With all this wide variation of barrel weight, barrel length, and sight radius, many combinations are possible. In an effort to establish which arrangement gave best results, at least for me, I made a long series of careful tests, taking averages from five targets shot with each combination of barrel length and weight, all using .22 Long Rifle ammo. Then I duplicated the series with .22 Short. The results were quite interesting, and while they may not hold true for every shooter, for this one they were conclusive.

The barrel lengths tested were $6\frac{3}{4}$ and 8 inch. As you might expect, at 50 yards outdoors the longer barrel with its longer sight radius was the better of the two. The two 50 yard targets illustrated, shot from a rest under the grip, demonstrated the basic difference. For this test Long Rifle match ammo was used, each round loaded singly instead of passing through the magazine, the same way as the small-bore rifle shooter does it. I did not test .22 shorts at 50 yards, although some shooters say they get good results with them at long range, as I have myself. However they are kind of "chancy," and I believe you are much more likely to get a reliable lot in .22 Long Rifle than in .22 Short, even in the high-priced match variety. I tried two makes of these and found at least one misfire or pip-squeak low load in each carton. (Of course if you have an



The various combinations of barrel length and barrel weights which were tested and compared. Upper three, the 8 inch barrel. Note that the location of the rear sight on the slide is not standard. However it permits the maximum 10 inch sight radius allowable in match shooting. Lower three, the $6\frac{3}{4}$ inch barrel, shows the arrangement which the writer has found best for his shooting. (Note—grip is not standard, but is one of the custom-made grips by Joseph Rivers, Rowayton, Conn.)

inside pull with some ammo manufacturer, that is something else again.)

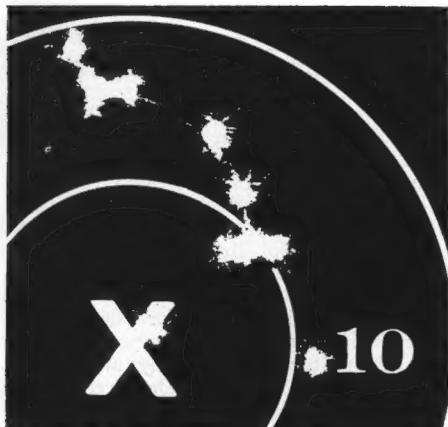
While the 8 inch barrel with the rear sight on the slide to give full 10-inch sight radius, and with either one or two barrel weights, seems demonstrably best for 50 yard slow fireshooting outdoors, this did not hold true for the shorter ranges, especially when shooting against a stop-watch, as in Time and Rapid fire in the National Match course. All the records shown were made at 50 feet, in Time Fire—5 shots in 20 seconds. Here the shorter barrel showed up best in both .22 Short and .22 Long Rifle. In other words when you bring the time element into the business it is easier and quicker to get a fair sight picture with the shorter sight radius—or at least a picture that looks all right. You sacrifice a bit of nail-driving accuracy for speed, get lined up more quickly, and avoid at least some of the worry that causes those spasmodic yanks on the trigger and wild shots.

Here too, the .22 Short gave better

results, no doubt because of the lighter recoil, allowing more aiming time per shot. Only question is, can you get dependable .22 Short ammo? I haven't yet, but am not through trying.

As to barrel weights, up to a certain point, the more the merrier. If you are strong enough to hold with both weights clamped under the barrel, without that front sight starting to flutter like a leaf in a wind, use them. Most of us can do it for a while, but as a target shooter you will have to hold up there for at least 20 seconds sometimes, and if your arm begins to tire after 15 of those seconds, the last shot or two may be on the wide side. Personally I have settled on the heavier weight alone, set as far to the rear on the barrel as it will go.

Incidentally, the muzzle-brake which comes with these Hi-Standard guns was not used in these tests. No doubt it does reduce barrel jump, but if so it is not perceptible to me.



Centers from two targets shot at 50 yards, from rest. Top, using longer barrel (8 in.). Bottom, using shorter barrel (6¾ in.). Shot under bench rest conditions, using selected match Long Rifle ammo, loaded singly.

Raymond Speer

Admittedly, pistol shooters are all different. What is best for one can be wrong for another. However the tests made demonstrate one point—it is not safe to settle on a definite arrangement or combination of barrel length and weight after only one or two targets. You have to set aside a carton of ammo, 20 or 30 targets, and at least a couple of mornings, before being certain of your conclusions. As I have heard the immortal Townsend Whelen say more than once, "One target doesn't mean anything."

Results of tests with Hi-Standard Citation pistol on various combinations of barrel weight, barrel length, sight radius. All shot in Time Fire—5 shots in 20 seconds, on Standard American Rapid Fire center. Each record is the average of five targets.

.22 L.R. .22 Short

8-in. barrel, 2 weights	94.4	94.8
8-in. barrel, 1 weight	93.2	94.8
8-in. barrel, no weight	93.6	95.2
6¾-in. barrel, 2 weights	95	96
6¾-in. barrel, 1 weight	95.6	95.6
6¾-in. barrel, no weight	95.6	95.6

EXPERIMENTAL BALLISTICS ASSOCIATES

The recently formed Experimental Ballistics Associates group met in Washington, D. C. on April 1st, during the N. R. A. Annual Meetings and Exhibits. Sixteen of thirty members, nation-wide, were present with three guests for an assembly of nineteen, an encouraging and enthusiastic showing.

The primary purpose of the meeting was to bring together those who have no other opportunity to meet. It had been decided in December, at a get together in Trenton, N. J., to make the annual N. R. A. convention the E. B. A. focal point in future years. This qualifies as the initial effort along this line.

In all future years, when the N. R. A. holds their annual convention in Washington, we will plan a concurrent assembly. This will allow a maximum of us to attend. We may regard this year as the zero or pilot unit in our endeavor along these lines. It has shown the real potential for such a serious meeting, and should be followed up next year.

All members were asked to supply stamped and addressed envelopes in which to mail data sheets as these are available. This seemed necessary with a list of thirty that is still growing, and seemed better than starting to charge dues at this time. Quite a few of those present have already sent in envelopes addressed to themselves, as requested. It will be appreciated if all associates who have not done so, will take care of this.

It was decided to multilith data sheets from those who have no means of making copies, and to prorate the cost among the members. The cost of doing this can be reduced if masters are supplied by the originator. As the number of associates increases, the unit cost by this method will go down, and a permanent and quality report sheet will result. As it is expected that the data developed will be worthwhile, these characteristics are felt necessary.

Time was far too short, in Washington, to talk to everyone as much as we would have liked to do. But even from our brief chats, it is evident that many interesting projects will be going on this year. These will range from bullet stability studies, investigation of components (powder, primers, and environment), to barrel stress conditions and their relation to accuracy. Two experiments have already been carried to the point of issuing data sheets to be mailed shortly. One of these, a study of all available powder scales, will be published this year for the benefit of all shooters.

If all material so far accepted for publication from associates reaches print this year, there will be a significant contribution to the shooting public from E. B. A. members. It is hoped that this will increase, as the basic purpose of this group is that of making knowledge gained in amateur investigations available to shooters generally for the benefit of any intelligent enough to use the facts.

I may be prejudiced about this, but I believe the pages of Precision SHOOTING have been enlivened by material provided by members of E. B. A. (not always so identified, unfortunately) or elicited by their work. A heavy correspondence from all over the world, not just this country, confirms my opinion that this amateur experimentation has had an impact upon many who were formerly working entirely alone, or with a small group. The steady growth of E. B. A., a working outfit, not a joiners corner, without promotion, further confirms this idea. The earnestness of many com-

munications means that this chance to share information with others in the same work, to communicate, and to associate with fellow experimenters, is the light they have been looking for. Since our story has been carried only by P. S., it never ceases to amaze me how far this sheet reaches, and how many really read it. We hope that reports of some of our investigations may help to keep it so.

We wish to thank the New Jersey Arms Collectors Association, who kindly let us use their booth at the N. R. A. Exhibit Hall as a contact point and to post notice for the E. B. A. Luncheon Meeting, held April 1st.

Edward M. Yard
for Experimental
Ballistics Associates

TOURNAMENT CIRCUIT

VERMONT GALLERY RIFLE CHAMPIONSHIP

Wayne Higgins of No. Scituate, Mass., very nearly made a clean sweep of the wins in the Vermont State Gallery Rifle Championship tournament, sponsored by the Barre Rifle & Pistol Club and fired on the Norwich University Armory range at Northfield, April 1st and 8th. A total 82 fired the matches, with only a scant majority of 42 being Vermont residents.

Higgins won the open championship with a score of 787, seven points ahead of Vermont resident champion and over-all runner-up Charles Langmaid of Brattleboro, Vt. Higgins won the standing match by outranking James Murphy of Fort Edward, New York, both with 191 scores. They held the same positions in the prone-standing aggregate with 391 scores. Higgins also won the kneeling match with a 197, a point ahead of runner-up William Hare from Gloversville, New York.

Langmaid won only one other medal during the tournament, high Master in the prone match with 200-19x, but he was never lower than 4th in Master class award ranking and that only once.

The other eight of the Top-Ten in the grand aggregate were: T. McDonnell, Glens Falls, N. Y. 775; Harry Naylor, Essex Jct., Vt. 774; R. Fernandez, Northfield, Vt. 774; R. Gregory, Winchester, N. H. 774; Ronald Brand (high Exp.), South Burlington, Vt. 774; James Murphy 773 (Exp); Lawrence West, Woodstock, Vt. 772; William Hare 771.

Vermont Woman Champion was Joyce Kelly, Woodstock, Vt. with score of 766. R. Winn, Sepulveda, California, was high Sharpshooter with 761 and C. Morrison, Bangor, Maine, high Marksman with another 761.

James Preston, Newfane, Vt. won the prone match with the only 200-20x fired. Carl Boyington, Bangor, Maine, won the sitting match with a 200-17x, followed by Linden Squires, Gilford, Vt. 200-14 and James Gomo, Springfield, Vt. 200-13. James Preston shot a 199-18x for 4th place.

Brattleboro Rifle Club won the four-man team match with a 1533 over Burlington Rifle & Pistol Club's 1528.

NEW HAMPSHIRE GALLERY PISTOL CHAMPIONSHIP

Raymond Bowlby of Concord successfully defended his State Gallery Pistol Championship at the Wilson Hill Range in Manchester over the week-end of April (Continued on Page Six)

Tournament Circuit

(Continued from Page Five)

14-15, firing an aggregate of 839 out of a possible 900.

Donald Hamilton of Milton, Mass. topped the field of 102 shooters to win the Open Grand Aggregate with a score of 878. Hamilton fired a possible 200 in the Time Fire match and went on to fire four more tens in search of a new record, but fell short. He dominated most of the matches, winning the open award in the Camp Perry (297), Slow Fire (187), Timed Fire (200) and National Match (294), and was High Master in the Rapid Fire with 197. Bowlby won the Rapid Fire with a higher ranking 197 score.

Arthur Carr, Cumberland, Rhode Island, won High Master aggregate award with an 847; Richard Tingley, Pease AFB was High Expert with 837; Lewis Freeman, Springfield, Vt., High Sharpshooter with 838; Billy Mathews, Greenland, N. H., High Marksman with 789.

The 13th Army Corps Reserve team defeated the Pioneer Club of Dunbarton by out-scoring them in the rapid fire stage, both teams scoring 1092.

Del Main

NORTH DAKOTA GALLERY RIFLE CHAMPIONSHIP

Gene Kolstad, Bozeman, Montana, creamed Maurice Scheu, Rice Lake, Wisconsin, both with aggregate scores of 1175 X 1200, to top the field of 99 shooters in the North Dakota Gallery Rifle Championship tournament, fired at Valley City on April 7th and 8th.

The Championship Aggregate consisted of 20 shot matches in each of the four positions plus a 40 shot match of 10 shots in each of the four positions. While this was an "Any Sight" tournament, both Kolstad and Scheu fired the entire course with Iron Sights.

H. W. Anderson, Carpio, N. D., won the North Dakota Resident Championship with the third over-all ranking score of 1173. Edmund Jensen, Fargo, N. D. was high Expert with an aggregate 1158 and O. Ponto, Brookings, S. D. was high Sharpshooter with 1122. Blair Emery, Valley City, N. D. was high Marksman with 1133, while his sister Dawn was high Unclassified and High Lady with her score of 1100.

L. C. Moore

METROPOLITAN RIFLE LEAGUE

Forty-four competed in the Metropolitan Rifle League "Double Individual Match" in Brooklyn, N. Y., firing two 40 shot matches at 100 yards, indoors, with telescope sights.

Sam Tekulsky won match "A" with a 400-37x score, followed by F. Eichler 400-33, Sam Burkhalter 400-33, A. Huffman 400-30 and M. Kaiser 400-30.

Harry Stone won match "B" with a 400-36x, followed by Sam Burkhalter 400-33, P. Addeo 400-32 and Irwin Tekulsky 400-32.

Firing 800 possible scores in the two match aggregate were winner Sam Burkhalter with 66 X's, A. Huffman 57 X's, J. Holle 56 X's and Winnie Carr 56 X's. Harry Stone had the high X tally of 67 with his 799 score.

CONNECTICUT SMALLBORE TOURNAMENT

The Connecticut smallbore tournament season opened at the Blue Trail Range on April 29th with 71 seniors and 65 juniors competing in the annual Spring Smallbore Championship sponsored by the Middlefield Rifle Club.

Carl ("Super-Swede") Johnson started off the season quite successfully by winning the 50 meter match with a 400-32x, the 50 yard match with 400-35 and the grand aggregate with 1595-121x.

Jim Brennan, Watertown, Conn. won the Dewar Course event with a 400-28 to beat the 400-27 by Frank Belunas from Auburn, Mass. Brennan was 4th in the aggregate with 1593-104. Belunas apparently did not enter the aggregate but his aggregate score was only 5x's under Brennan's.

Harry Stone, Long Island City, N. Y., won the 100 yard match with the only possible fired — 400-27x. Laurence Moore, Aberdeen, Md., was runner-up with a 399-28x. Moore was 3rd in the aggregate with 1593-111x.

Austin Huffman, Valley Cottage, N. Y., was runner-up in the 50 meter match with 399-31x. Lloyd Norton, Bridgeport, Conn., was runner-up in the 50 yard match with 400-33x and was close enough to the top all the way to take 2nd in the aggregate with 1594-115x. John Miller, USNAS, with 1592-101 was 5th in the aggregate.

Leo Zieller, Middletown, Conn., shooting in Marksman class, took the class award in every match and ended up 6th over-all in the aggregate with 1591-109x. Joe Carten, Stratford, Conn., was high Expert with 1587-93x; Fred LaBarre, Chappaqua, N. Y. was high Sharpshooter with 1583-81x and Roy Sweet, Windsor, Vt. was high Unclassified with 1586-89x.

In the junior division, two 16 year old girls showed the boys how it was done—as well as a lot of the men. Evelyn Beazley from Sudbury, Mass. was leading Karen Carten from Stratford, Conn. by 7 points and 6 X's going into the final match—40 shots at 100 yards. In that final match Karen fired an outstanding 398-21x to tie Evelyn's point score and beat her by a single X—1583-83 to 1983-82.

Two 17-year-old boys, Nelson Roberts, Southwick, Mass. with 1575-84 and John Goodsell, Stratford, Conn. 1574-76 were 3rd and 4th. In 5th place was 13 year old Albert Pjura, Stratford, Conn., with 1571-69x.

CALIFORNIA MUZZLE LOADER CHAMPIONSHIPS

The thirteenth annual state muzzle loading championship matches lasting for five days, April 25th through 29th, were fired on the Fresno Rifle Club range near Clovis, Calif.

Leslie Stephenson, San Jose, won the round ball course championship with score of 187 X 200; the offhand championship with 188 X 200; and the California Combination Championship with 380 X 400.

The Military Rifle Championship was won by Frank Paine, Burbank, with 138 X 150.

The Slug Gun Championship was won by Milo Taylor, Long Beach, with 196 X 200. Richard Coviello, Fresno, was 2nd with 194.

The handgun championship went to Pat Snively, Arkansas, with 185 X 200.

Ole Olson, Oakland, took the All Around Championship with 182 X 200.

The Flintlock Rifle Championship went to Leonard Ticehurst, San Jose, 132 X 150.

The 100 yard double bench rest event, with slug gun and scope sights, was won by Vic Coviello, Fresno, with score of 99 X 100. Carl Fuller, Riverdale was 2nd with a 98. Coviello also won the double bench rest with iron sights with a 98 score.

Vic Coviello won the 200 yards string

measure match with a 100-6x, and Carl Fuller again in 2nd place with a 98 score.

Henry Wright

CONNECTICUT BIG BORE LEAGUE

A total of 381 shooters representing 44 teams opened the Connecticut Big Bore Rifle League season at Blue Trail Range on April 15th. The 1961 Champs, Rippowam Rifle Club, took up where they left off and beat Middlefield 612-39V to 609-42V. Silver City 606-33, Magnum 605-33, Roslyn 605-32 and Bell City 603-31 were the teams with over 600 scores (the team possible is 625).

H. B. Smith, firing for Quinnipiac, started off the season with a possible 125-10V. Ken Stannard, the only member of the Uptown team to show, also fired a 125-10V score. Individual scores of 124 and 123 were almost as common as alibis.

WESTERN OHIO RIFLE LEAGUE

The Miami Valley Rifle Team were undefeated in both the any sight and iron sight divisions in the Western Ohio Rifle League 1961-62 season to win another league championship. The Annie Oakley team were runners-up in the any sight division, being beaten only by Miami Valley. Miamisburg was runner-up in the iron sight division, losing to only one team—Miami Valley.

In the final any sight division match, R. Wright of the Miami Valley team fired a new league record for the four position course—396. He fired possibles prone and sitting, 99 kneeling and 97 standing. Wright fired high season aggregate in both the any sight (2750) and iron sight (1560) divisions.

Following Wright in the any sight division were J. Turnbull 2732, I. Grillett 2728, J. Day 2724. In the iron sight division, G. Cash 1550, F. Fecke 1530, I. Grillett 1529 and O. Lauderman 1526.

S & W 38 MASTER RELOADS

By Kent Bellah

The March issue had my reloading dope on reloads for the superb Smith & Wesson 38 Master automatic pistol, Model 52. They still stand, but here are some finer points on the technique. As most shooters know, factory 38 Special Wadcutters ammunition is the most accurate and highly developed factory C. F. stuff made. Reloads have to be darn good to equal or exceed it. Fairly good routine reloads won't approach factory accuracy. More sloppy loading is done on this particular cartridge than any other. Perhaps that's because it's often reloaded on a semi-mass-production basis because so much of it is used for target practice.

Star and Phelps turret loaders are popular with police departments and competitive shooters. The former generally assemble stuff that's sub-standard, sometimes hardly better than throwing rocks. They make it as fast and cheap as possible, and a great many police can't tell the difference, unless they get a goofed round, such as a double-charge, or uncharged cartridge. The former generally detonates and ruins a gun. The latter starts a bullet in the barrel throat. In a revolver it locks the cylinder, so the bullet must be driven back in the case with a rod. Some police machines run tens of thousands of rounds, even hundreds of thousands, with machines not carefully adjusted.

The fault's not in the machines. It's generally because an officer, who isn't much interested in reloading, and doesn't know much about it, is assigned to operate a machine he doesn't know much about. Police budgets often are slim, and fast, low cost production is quite desirable.

This isn't slanted to agencies of this type. I think they are hopeless, and will continue to assemble sub-standard fodder. A good many don't realize that the cost of quality ammo is only a few cents more per box. Granted, it takes a bit more preparation and loading time, plus more inspection time. Police often use any available scrap lead, rather than a quality commercial mix. This would grade up their ammo quality for higher scores.

Competitive shooters generally do pretty decent loading, but a good many continue to use a non-uniform scrap metal mix. Hardness of the alloy doesn't indicate quality or uniformity, nor does uniform bullet weight.

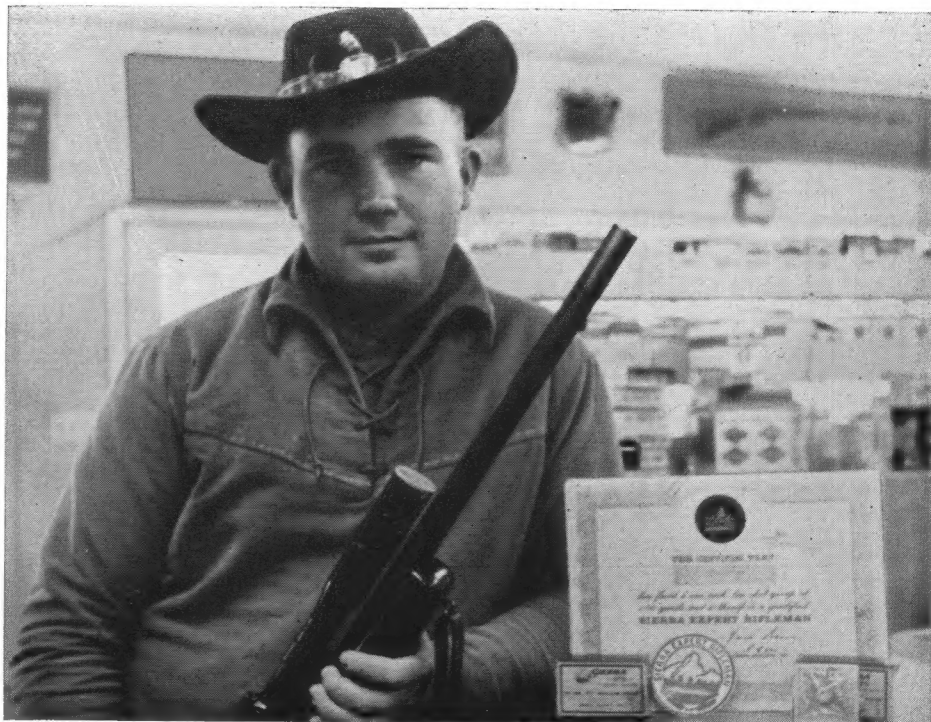
After trying Illinois Bullet Alloy No. 5 and No. 7, I've settled on No. 7. S & W's 38 Master isn't temperamental at all. It shoots well with nearly anything. But ammo has to be absolutely right to compare favorably with factory stuff. The gun holds the accuracy of the load to a very high degree. If you are a beginner, you probably can't tell much difference between really precision ammo and mediocre stuff. If the latter serves your purpose, go ahead and use it. If you want the ultimate accuracy with a very fine target pistol, you'll have to assemble the best loads possible. That's true with any firearm. No gun is better than the ammunition!

A most desirable feature of the 38 Master is it fires with a locked breech. I'm sure this contributes to accuracy, and certainly to case life. It doesn't bulge or bugger cases. The accuracy life should be very long indeed, before you need a tune-up or tighten-up job, if ever. Call it a factory production gun if you will, but it's really the equivalent of a factory custom pistol, and factory tuned. My gun still hasn't jammed once, and it's had more abuse with a larger variety of loads fired in it than many target shooters give a gun during its useful life. And my gun is still perfect.

With the Hensley & Gibbs No. 50 cast bullet, backed with 3.0 grains Bulseye and CCI No. 500 standard primers, it's the most accurate pistol or revolver I own for moderate range work on jackrabbits. It gets the lead out to beyond 75 yards, and even to 100 yards. It's fast and deadly on running jacks. I believe the accuracy advantage is worth more than more powerful loads in a .357 revolver, although I've long been a revolver fan, and still am. The terminal damage is less than heavy .357 loads with fast expanding Jugular type bullets, of course, but the ammo is considerably less expensive. A good hit bags a jack cleanly, and I get more hits. But don't think for a minute that I'll discard my battery of S & W Magnums!

Some target shooters who have been throwing castings of around .360 or larger, and sizing to .358 or so for revolvers, may try to use the same mould, and size to the more desirable .356 or .355 for the Master. It simply won't work well. When castings are sized down too much you get lousy bullets, often shortened, or looking like the Leaning Tower of Pisa. Lead extrudes into the lube grooves. A loose-jointed cheap sizer-lubricator magnifies the trouble. So does a rough sizing die, or one out of alignment.

Castings are best if they are no larger than .0005 over final diameter, although with a good sizer you can reduce them a thousandth or so. With a sloppy mould it's much better to shoot oversize bullets than to oversize. The bore is a much better sizer than a loose-jointed contraption on your bench. That malarkey about "sizing down .003 or .004 to true-up a bullet" is as false as falsies.



John H. Cuneo of Roseville, Calif. is the first rifleman to qualify for a Sierra Expert Rifleman award. To qualify, Mr. Cuneo fired a 10-shot group within 1 inch at 100 yards, using 90 grain, .270 Hollow Point Sierra Bullets. The personal certificate, brassard and pin presented to him are shown in this picture taken in Raymond Sporting Goods store in Placerville, Calif.

Bullets that are otherwise excellent are often ruined in sizing. Be assured that no bullet will travel in straight flight if it's out of balance, out of alignment, or has a nick or flaw in the base. A nick or flaw on the nose is not very serious on bullets that start below the speed of sound in flight. The base is vital. There is no better Lubri-Sizer than a SAECO, and no better dies than SAECO are on the market.

Castings should be sorted by both weighing and inspecting. The heaviest weights are, if correctly cast, the most uniform. If mould blocks get lead splattered they won't close fully, resulting in larger, out-of-round castings. Another variation is caused by varying your grip on the handles. Holding handles loosely results in larger castings than if they are gripped tightly. For this reason, and others, more uniform castings result if one person does the casting. I know this to be a fact, as I've checked my own castings against those made by other people with the same set-up, with identical components for the same batch. My wife, for example, is a wonderful person, but a lousy caster. I won't let her cast to keep a mould at working temperature while I take a coffee break, which she appreciates greatly.

Mould and metal temperatures should remain as uniform as possible. An accurate thermostat controlled furnace, such as a SAECO, maintains temperature accurately. You goof it up by adding too much metal at a time, and resuming casting before temperature returns to normal. Illinois Bullet Alloy is supplied in 5—one pound linked ingots, easily broken apart. By adding only one ingot at a time the metal temperature won't vary much, and practically none if you wait a few seconds after it melts, with the thermostat turned wide open. Leave the mould filled when adding metal.

Illinois (DIVCO, 7742 West 61st Place, Summit, Illinois) also supply alloys in 5 pound ingots. These are too large to add at one time to a pot. SAECO's ingot moulds cast 5—one pound "pigs." If you want them linked, like the IBA, cut notches

in the mould dividers. This is convenient when you store or handle ingots. Stamp the pigs with your alloy number or type. People who wouldn't dream of keeping various powders in unmarked cans sometimes get various alloys mixed up, and especially sprue cuttings saved to start the next melt. Mark sprue cutting cans with a grease pencil, or write the alloy on adhesive tape labels for the cans.

Bullets that are not perfectly filled out, or that have flaws on the bearing surface, may be badly out of balance. They will wobble out of true flight, even if they are of uniform weight. Light bullets from one batch may have internal defects or air pockets, or a bit of dross inside. They simply won't shoot. The SAECO furnace practically eliminates the dross if the metal is correctly fluxed and stirred, and the alloy is good stuff. Use the lowest heat that makes perfect bullets, but if you have any doubt about the temperature run it higher. About 750 degrees works well for me with IBA No. 7, for speedy casting. One-hole moulds seldom get too hot, but often get too cold. The H & G 4-hole blocks hold heat well. Despite the fact that they have four cavities, bullets run quite uniform in weight and diameter. These moulds are precision made, and no better are made by anyone.

Perfect bullets are necessary for best reloads. The average run of cast bullets are lousy. No factory would load them, even in their service grade ammunition. Much of the accuracy of .22 rim fire ammo is due to uniform quality swaged bullets.

Don't size bullets like slamming a barn door. Hold and start the casting in the die as straight as possible, and size it gently. It takes a few minutes longer on a long run, but it is one way to eliminate flyers, and it certainly gains points. Perfect Lube has proved to be excellent, and the price is attractive. If lube gets on bullet bases, be sure to wipe it off. You should get very little lube on the bases, or none at all.

Some low priced loading dies are worthless. \$13.50 is not a high price for a

(Continued on Page Eight)

S & W 38 Master Reloads

(Continued from Page Seven)

good 3-die set. You don't need four dies for this particular cartridge. The sizer should reduce cases enough to hold flush seated bullets friction tight. Standard sizers are for bullets around .358. Sloppy ones won't hold a desirable .356 or .355 pill tight enough. You should not attempt to correct the trouble by crimping the case mouth. Seater dimensions are also critical. A seater should merely remove all bell from the case mouth. If a hull has been correctly chamfered with an inside deburring tool a very slight roll (turned) crimp doesn't hurt anything, but it isn't necessary.

I haven't had any feeding trouble whatever, even with cases that retain the slight bell on the mouth. However this makes crummy looking ammo, and it could contribute to a jam. W-W and R-P ammo has a fairly heavy roll crimp, and shoots extremely well. I use a light crimp for revolver loads. Bullets won't drive out of cases from recoil in the auto pistol. With proper dies I do not think a crimp is desirable, for this gun. (I think a light taper crimp is best for the .45 ACP. Taper crimp dies in .38 or .45 are available from Gil Hebard Guns, Knoxville, Illinois.)

The exact case length isn't important, so long as it's within reason and is uniform. One of my Forster trimmers is kept set for 1.142, which cleans up practically all hulls. Shorter ones are discarded, and so are any with visible non-uniform wall thickness. Examine the mouths of several trimmed cases before deburring. In a good light you can easily detect a non-uniform mouth thickness. One make and lot number of cases have a uniformity advantage in head-space and other factors.

Cannelures are a headache. Why do some makers goof otherwise good hulls with a cannelure? They weaken cases, which isn't so important for cream puff target loads, but they sometimes pull apart with hot revolver loads. I've actually had some lot numbers of factory ammo pull apart on the first firing. This can damage a gun, or even a shooter. The groove doesn't iron out, even with hot loads in a .357 Magnum. Some cannelures are near the case mouth on .38's. Bullets seated below this groove may be deformed. Use plain brass if possible, or the type with cannelures below the seating depth of your bullet. I'll bet the cannelure would be a thing of the past if enough shooters protested to the ammo makers. After all, they are in a highly competitive business and want their brand to have all the sales appeal possible.

Reloads with .356 hard cast flat base bullets lose accuracy in a K-38 revolver, that generally shoots best with a .358. Substituting Norma "Hollow Tail" wadcutters immediately restores accuracy in the K-38, and it also performs beautifully in a Master. Norma's pill is very close to the listed .358.

Hollow base pills compensate for various size bores. They have an accuracy advantage with a longer bearing surface, at least in theory. The diameter is not nearly as critical as a flat base type. Actually it isn't critical at all, nor is the alloy that can be quite soft. The fine accuracy of .38 factory loads in nearly all guns is, I believe, due in a large part to the soft, swaged hollow base or hollow tail type bullets.

Over the years I've miked factory bullets from various makes and lots of ammo. Variations are often large in the same make. "Sammy" lists .359 as maximum, but few are this large. They have run from .3544 to .3592. This is whale of a spread, but I'm sure it isn't the maximum, considering

the thousands of lots made, and the relatively small number I've measured. Yet the largest and smallest shot well in several guns with tight bores and several with large bores. While the H. B. type is better for a variety of guns, I do not think it has any advantage over an equally fine flat base of the best diameter for a particular gun. Sometimes it takes a good deal of precision testing to determine the best flat base diameter for a particular gun.

Here the auto pistol is not as temperamental as a revolver, that may have a large chamber throat combined with a tight bore. James Gibbs, of Hensley & Gibbs fame, has some opinions I respect very highly on revolver bullets. He tells me that they should be sized for the cylinder throat dimensions, rather than groove diameter. Both makes of double action revolvers have about the same cylinder throat dimensions, although Colt's run about .354 groove, and Smith's run about .357.

Phil Sharpe knew more about handloading in his day, I think, than any other man. He never believed anything fully until he made his own tests, an example all shooters should follow. I couldn't agree with Phil that "Conical base bullets are useless." His statement was based on his own tests with hard cast alloys for both types sized .358. On this basis he was correct. Flat bases gave the best groups. Phil couldn't tell me why conical base factory bullets often grouped better in a particular gun. I think his results would have been different if he had compared several size bores with hard cast flat base pills, and the same guns with soft, swaged conical base bullets, all using target charges.

Moulds are available to cast conical or hollow base pills. They are slow to cast, and rather difficult to cast as perfectly as solids. Mould temperature is also more critical. Everything considered, I very much prefer flat base (or Bevel Base) castings, such as the H & G No. 50 or No 50-BB. No doubt target shooters would greatly appreciate quality swaging dies to make factory type wadcutters with a deep hollow tail. Such dies have been made, but the bullets lack the lubricating groove that I consider necessary, even for low velocity target loads. By using a tin alloy wire the tin provides some lubrication, but I don't think it's quite enough.

One hollow base boattail design has a .3575 bearing surface for about one third of the bullet length just ahead of the boattail, for the entire cavity depth. Just behind the tapered wadcutters nose the diameter is .346 for about .250". The same design is made with a hollow point. Another design is similar, without the boattail. Perhaps adequate lube could be put on the forward part of the bullet body. I'll report on these when tests are completed.

Let's boil down the reloading technique for the 38 Master. Reloads must be uniform quality, and they must be right, for the ultimate in target accuracy. The gun is not temperamental, nor is the cartridge, provided the ammunition is loaded for the gun. This is true of any fine target piece, long tube or short.

Target shooters burn ammo in volume, and far larger volume than riflemen. You simply can't thrash out match grade pistol ammo at the rate of a thousand rounds after supper. You can cast and size bullets a darn sight faster than you can sort and inspect them. It takes a little time to set-up and trim, inspect and deburr cases, and a bit longer if you discard hulls with non-uniform flash holes, as you should. It takes a little extra time to weigh or carefully measure charges of sticky powders.

Let one crummy bullet, or one short charge get mixed with a thousand rounds and that cartridge will print out of a normal group. Slipshod load a thousand rounds and groups will be much larger than normal. Such ammo is adequate for close range police training, and good enough to plink close range tin cans. But it isn't match grade ammo. If you don't want to take time to make precision reloads, and value your time at a high rate per hour, R-P or W-W will be pleased to make ammo for you. They can make good stuff, and produce it faster than you can shoot it.

To repeat, Smith & Wesson's fine .38 Master digests almost anything, holding the accuracy of the load to a high degree. The more I shoot it the better I like it. It's the most perfect functioning auto I've ever owned. There are no bugs in it, and I can't find a single thing I'd change in the least, for a target pistol. This is unusual for me, as I don't want to be completely satisfied with any gun. (That's a good way to get in a rut!)

The very desirable locked breech and the excellent design could be used for a .357 Magnum Automatic. This I'd like very much, and I think many people would when they tried one. The handle would be a bit wide for people with short fingers, due to the overall length of the cartridge. My fingers are not long. I've fired the gun with a spacer behind the grip to equal the difference in cartridge length. It works well indeed for single action fire, but a bit wide with the double action cut-off screw turned down. Hunters, of course, would always use it as a single action automatic. The better accuracy and higher velocity would offset having to pick up hulls for reloading. It would handle the soft, swaged, half jacketed bullets that are so deadly on game.

Hunters have never had any serious interest in center fire automatics, as a really fine one in target grade has never been made. The S & W .357 Magnum cartridge has accuracy that just about equals the best wadcutters target ammo—a fact that isn't widely known. The range and killing power are much greater. It's well known that a .22 and .38 revolver simply won't compete with fine automatics in matches. The difference might be even greater in a .357 Magnum Automatic for hunting. Someday we'll have one. Let's hope it isn't too far away!

HANDLOADER'S DIGEST

When I first saw an announcement of the First Annual Edition of the Handloader's Digest I didn't get much idea of what it was all about but jumped to the hasty conclusion that it was probably a super-duper handloading manual. When I saw the book I found how wrong I had been.

The HANDLOADER'S DIGEST, edited by John T. Amber and published by the Gun Digest Company, Chicago 24, Illinois, is an encyclopedic reference volume which lists all of the tools, accessories and cartridge components which are currently available for handloading rifle, pistol and shotgun ammunition.

The book content is arranged for convenient reference. The related items are grouped together. Each item is illustrated, described and the current prices listed. The items for handloading rifle, pistol and shotgun ammunition are in separate sections.

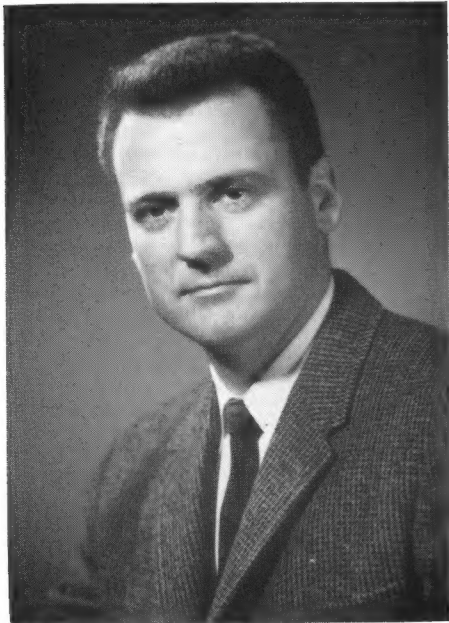
In addition to the loading equipment and accessories, there are sections devoted to the tools, accessories and components for making jacketed bullets for both Handgun and Rifle ammunition.

The book does not have cartridge load

data or detailed instructions for handloading. It leaves that job to the available loading manuals, which it does list. It does, however, include reprints of technical information articles which have been published in shooting periodicals, and bringing these together in this book is a convenient and worthwhile feature—a heck of a lot handier and quicker than hunting through old magazine or Gun Digest files for the information you want.

In this writer's opinion the Handloader's Digest at its \$2.95 price is a bargain for any real gun-nut. This and following editions will be a valuable addition to any handloader's reference material.

P. H. T.



Raymond Speer, Speer Products Co., Lewiston, Idaho, was elected president of the National Reloading Manufacturers Association during their annual meeting held April 2nd. Joyce Hornady was elected vice president and John Harutun, secretary-treasurer. The National Reloading Manufacturers Association is composed of 17 manufacturers of reloading equipment and components.

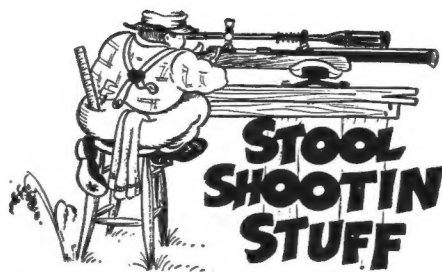
"RED JET" BULLET VARIABLE

According to Cascade Cartridge, Inc. information, an interesting phenomena has been observed when shooting CCI Red Jet bullets in .30 caliber or other large capacity rifle cases. Occasionally, just a click attends the firing pin blow. It would be reasonable to assume that this was a misfire. Closer examination proves that the primer did fire, but the bullet did not move in the slightest. This phenomena has been observed with primers of all manufacture.

The CCI ballisticians reports that the internal capacity of a case in the nature of a 30-06 case, has sufficient volume to minimize the gas volume produced by the primer sufficient to prevent the emergence of the bullet. Under such circumstances, the cartridge case will be definitely warm to the touch.

The most satisfactory solution worked out has been to fill the cases with a substance that can be either lead, plaster of Paris, thermosetting plastic or other substance. Then a straight through hole is drilled through the flash hole. This effectively contains the primer energy within a narrow channel and results in excellent performance.

The fact that this phenomena is inconstant is somewhat puzzling. Further study will be necessary before a complete analysis is possible.



Dear Phil:

I am being accused of imbibing too freely in certain liquids by some of my friends who read last month's column and I hasten to explain to you and to others that I am not the culprit. I have gone over my notes and manuscript very carefully so I am afraid I will have to accuse one or more Vermonters. I must admit I had some trouble myself untangling some of those garbled sentences. It must have been one of those new fangled type setting machines with an unfamiliar operator or else we will have to blame it onto a type setter who was too close to some of that Vermont hard cider as the job was being done. I had been of the opinions that you fellows gave those cider jugs a rest as the sap began to run and you were all busy out sugar bushing to keep that old Vermont maple syrup on the pantry shelves where it would be handy for the morning's flapjacks or a dozen other delicacies that only maple syrup makes just right.

As the maple syrup begins to run, our shooting enthusiasm builds up, too, and even though throughout the winter months we have been doctoring our equipment and guns, we haven't been able to measure the success of our efforts until good shooting weather occurred. Daylight saving is again on hand and from that, we are getting two lucky breaks because by moving the clock ahead, we can shoot in the quiet period before work in the morning and before the wind comes up and the sun makes mirage and light changes, and not feel that we are getting up in the middle of the night to do it. Again as evening arrives we are more apt to find good shooting conditions and often a good period for testing is between supper hour and dark.

You will note that I said those periods were best for testing and that is not to say that they are the best for practice. Testing and practice are two different things. If you want to know just how good your gun is shooting or how well your newest loads are performing, do it when conditions are ideal, and if it is possible, make those tests with another shooter who is well qualified, too. In that way, you will know whether or not you are having an off day or whether it is your gun that is not doing quite as well as it should be. If your partner is having bad groups, too, it might point to a condition that you could not readily observe. This matter of shooting with a pal is of great importance and should be indulged in whenever possible. The rate at which we learn is multiplied many times by this method. Most of us shoot too often and practice too little and I feel I am currently very guilty on these counts. It is very natural to sit down at the 100 yard bench and punch out a few practice groups on a quiet day but how silly we are. These groups really do no pay off. It would be much better to choose a day when the mirage is shifting or the wind gusty and with frequent light changes because these are the days we are going to find most frequently in competition and if our guns will shoot well on such days they certainly will do well by us on the quiet ones.

(Continued on Page Eighteen)

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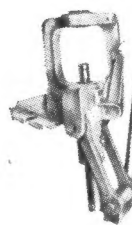
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PRESIDENT'S CORNER

As a result of Mr. L. E. Wilson's suggestion that we compile the records of the past National Championship Matches and publish them, you will find this most interesting data in another column of this issue. The work of setting up this record information was done by Mr. Ed McNally. It is a fine job that took considerable time and labor and in behalf of our members, I want to thank him.

I believe that all who are interested in our National Championship Matches will find this information quite interesting, and with some surprises included. After studying it over it is plain to see that attending a National Championship Match has many interesting angles and chances for each shooter to cut some kind of a mark on the wall of history for himself. Plan to attend our National Matches and see if YOU can improve these records.

I am cutting this column short to provide room for this report.

Until June,

Bob Hart

1962 BENCH REST MATCHES

EASTERN REGION

UNRESTRICTED RIFLES

Augusta, Ohio: June 30-July 1, July 28 (night), August 18-19, September 15-16. Reed's Run Rifle Range, P. O. Box 66, Augusta, Ohio.

Wapwallopen, Pa.: July 21-22. Council Cup

Rifle Range, Robert W. Hart, 332 Montgomery St., Nescopeck, Pa.

Easton, Ohio: June 16-17 (State Championship). Chippewa Rifle Club, Nelson Berger, Sec'y, R. D. 1, Box 192, Marshallville, Ohio.

Southboro, Mass.: June 17; August 5; October 14. Southboro Rod & Gun Club, J. W. Baldwin, P. O. Box 402, Westboro, Mass.

Plainfield, N. H.: June 3 and Sept. 16; Plainfield Rifle Club, Leslie Stone, Sec'y, Plainfield, N. H.

Lewistown, Pa.: July 7-8. East End Blue Rock & Sportsmen's Club, P. J. Aurand, Milroy, Pa.

Johnstown, N. Y.: September 1-2; Eastern Region Championship. Pine Tree Rifle Club, Edward J. Sweeney, 501 N. Market St., Johnstown, N. Y.

VARMINT & SPORTER RIFLES

Fassett, Pa.: June 9-10 (Pa. State Championship); July 4; July 29. South Creek Rod & Gun Club, Gerald Arnold, Sec'y, R. D. #2, Gillett, Pa.

Dryden, N. Y.: June 23-24 (N. Y. State Championship); September 23. Dryden Fish & Game Club, Edward Shiten, Dryden, N. Y.

Easton, Ohio: July 14-15 (Eastern Region Championship). Chippewa Rifle Club, Nelson Berger, Sec'y, R. D. 1, Box 192, Marshallville, Ohio.

Wapwallopen, Pa.: August 10-11-12 NATIONAL CHAMPIONSHIPS. Council Cup Rifle Range, Robert W. Hart, 332 Montgomery St., Nescopeck, Pa.

SOUTHWEST REGION

Richmond, Calif.: July 7-8 (California State Championship); Richmond Rod & Gun Club; contact John B. Sweany, 187A Silverado Trail, Calistoga, Calif.

Yreka, Calif.: Sept. 1-2 (West Coast Championship). For Unrestricted Rifle, open and limited divisions, and both Varmint Classes. Yreka Rifle Club, contact Ray E. Jones, 508 Knapp St., Yreka, Calif.

Fresno, Calif.: Oct. 20-21 (Regional Championship); Fresno Rifle Club, Mrs. Henry C. Wright, Sec'y, 4663 East Olive, Fresno 2, Calif.

GULF COAST REGION

San Angelo, Texas: August 25 and 26; State Championship Varmint and Sporter Classes. Texas Bench Rest Shooters Ass'n, Marie Spencer, Sec'y, P. O. Box 1243, San Angelo, Texas.

MID-CONTINENT REGION

Tulsa, Oklahoma: June 16, July 21, August 18, September 16 (all for unrestricted rifle, varmint and sporter classes—all NBSRA registered except Sept. 16). September 26, 27, 28 and 29 NATIONAL CHAMPIONSHIP, UNRESTRICTED RIFLES, OPEN AND LIMITED CLASSES. Tulsa Bench Rest Rifle Club, R. G. Berry, Sec'y, Pawnee, Oklahoma.

MID-CONTINENT REGION

Hot Springs, Arkansas: June 30 (night), August 25 (night), October 14 (all matches for all classes). Hot Springs Gun Club, 101 Entrance St., Hot Springs, Arkansas.

Kansas City, Kansas: Unrestricted rifle only—August 4, October 20 (all are night matches). Mill Creek Rifle Club, L. F. Carden, Sec'y, 2211 North 44th St., Kansas City 4, Kansas.

Wichita, Kansas: July 7 and 8 (Day and night, all classes, Kansas State Championship), September 2 (day—unrestricted rifle), October 6 (night—varmint and sporter). Wichita Bench Rest Rifle Club, Capt. Rick Hornbeck, 1640 Windsor, Wichita 18, Kansas.

MISSISSIPPI VALLEY REGION

St. Louis, Missouri: June 17 (heavy varmint and sporter), July 8 (Open class Unrestricted—Missouri State Championship), July 29 (sporter and light varmint), August 19 (Open class, Unrestricted Rifle), September 9 (heavy and light varmint). Bench Rest Rifle Club of St. Louis, Arthur M. Freund, Sec'y, 1038 Hornsby Avenue, St. Louis 15, Missouri.

NORTH-CENTRAL REGION

Buffalo, Wyoming: July 14 and 15 (Mid-Summer Bench Rest Match), September 9 (Sporter Match), Buffalo Outdoor Rifle Club, Harold Platt, Sec'y, Box 721, Buffalo, Wyoming.

Custer, South Dakota: August 11-12 (registered shoots, June 3, July 22, September 9 (unregistered shoots)). Ad for unrestricted bench rifles, heavy varmint and sporter classes. Black Hills Bench Rest Shooters Ass'n, Reg. McGiffin, President, 845 Rena Place, Rapid City, South Dakota.

NORTHWEST REGION

Renton, Washington: June 16-17, August 11-12 (registered shoots, special program), May 13, July 1 (heavy and light varmint and special "25 lb. rifle" classes). Seattle Precision Shooters Club, Roy E. Meister, Sec'y, 3938 Ashworth, Seattle 3, Washington.

Bench Rest Match Reports

BENCH REST MATCH REPORTS RENTON, WASHINGTON

Ed Frombach made a clean sweep of the aggregates in all three classes at the Seattle Precision Shooters Club match at Renton on April 8th—a "First" such accomplishment in the Northwest Region.

Amos Frombach shot a .278 inch group in Sporter class, which is a new local record. Steve Floyd, a very young new shooter, shot a .326 inch group to win first in one of the Varmint matches. Ed Hilton's group of .298 in the Varmint class was only good for 2nd place behind Ed Frombach's .229 group. Manley Oakley got 3rd with a .321 group, to show how hot the shooting was in this class. Jack Swick won the first Sporter class match with .633 and this was the largest group to win in this class. Ed Frombach fired 3 groups under .300 inch in these matches.

The new 25 lb. class proved very popular and some hot rifles showed up. Ed Frombach and Roy Meister brought out rifles that had been in the closet for years, because they were too light for the Unlimited class and too heavy for the Varmint class. These old conventional rifles placed first and second in the aggregate with .348 and .437. Harry Masters with .447 and Manley Oakley with .476 took 3rd and 4th places with new 40X rifles.

TULSA, OKLAHOMA

Following a warm, sunny day on Saturday, a cold, gusty 15 to 20 mph north wind chilled the shooters and opened up groups during the Tulsa Bench Rest Rifle Club's first match of the season on the John Zink Range, April 15th. The program included competition for three classes; 9 shot the heavy bench rifles, 15 the Varmint rifles and 6 fired Sporters.

J. W. Gassoway, shooting a bull-pup rifle in 220 Powers Special cal. in Douglas barrel on FN action, won the heavy rifle aggregate with a .8247 MOA. He was second at 100 yards with .761 agg. and first at 200 yards with .8884. Bob Morgan, shooting a .222 in Hart barrel on FN action was first at 100 with .680 and 2nd in the NMC with .8295 MOA. Regional Director Larry Engelbrecht was third at 100 with .774 and third in the NMC agg. with .8914. Tulsa Club secretary Bob Berry was second at 200 yards with .9224 MOA.

Red Cornelison made a clean sweep of the Varmint class aggregates with .605 at 100, .5514 at 200 and .5782 for the grand agg. A. W. Ham was second in the grand with .6833 and Ernest Mayfield was third with .6979.

Tom Gillman, shooting a 6 m/m in Douglas barrel on Springfield action, won the Sporter class aggregate with .8789. He was second at 100 with .886 and first at 200 with .8718. Ronnie Richardson, shooting a .243 in Hart barrel on Marlin

(Continued on Page Twelve)

STATISTICS AND RECORDS OF NBSRA NATIONAL CHAMPIONSHIP SHOOTS

NATIONAL CHAMPIONS

Date	Winner	Site of shoot
1954	Ed McNally	Custer, South Dakota
1955	Sam Clark, Jr.	Johnstown, New York
1956	Charlie Hankins	San Angelo, Texas
1957	Harold Hale	DuBois, Pennsylvania
1958	Robert W. Smith	Tulsa, Oklahoma
1959	Paul O. Gottschall	Johnstown, New York
1960	Homer L. Culver	Tulsa, Oklahoma
1961	Cline Deere	Johnstown, New York

100 YARD CHAMPIONS

1954	M. H. "Mike" Walker	Custer, South Dakota
1955	Ralph Pride	Johnstown, New York
1956	Henry Barton	San Angelo, Texas
1957	Omar Rinehart	DuBois, Pennsylvania
1958	Harold Shipley	Tulsa, Oklahoma
1959	Paul O. Gottschall	Johnstown, New York
1960	Ferris Pindell	Tulsa, Oklahoma
1961	Ferris Pindell	Johnstown, New York

200 YARD CHAMPIONS

1954	Ed McNally	Custer, South Dakota
1955	Sam Clark, Jr.	Johnstown, New York
1956	Charlie Hankins	San Angelo, Texas
1957	Paul O. Gottschall	DuBois, Pennsylvania
1958	Robert W. Smith	Tulsa, Oklahoma
1959	Robert W. Hart	Johnstown, New York
1960	Robert W. Hart	Tulsa, Oklahoma
1961	Homer L. Culver	Johnstown, New York

RECORD GROUPS AND AGGREGATES

Record 10 shot group at 100 yards—.1694 inch. Shot by Cline Deere at Johnstown, New York in 1961.

Record 10 shot group at 200 yards—.4360 inch. Shot by Ed McNally at Johnstown, New York in 1961.

Record aggregate for five 10 shot matches at 100 yards—.3038 inch. Shot by L. E. Wilson at Johnstown, New York in 1961. (a .3132 inch aggregate was shot by Omar Rinehart at DuBois, Pa. in 1955.)

Record aggregate for five 10 shot matches at 200 yards—.4459 minute of angle. Shot by Ralph W. Stolle at Johnstown, New York in 1961. (A .4612 M.O.A. aggregate was shot by Sam Clark, Jr. at Johnstown, New York in 1955.)

Record aggregate for ten 10 shot matches at 100 yards—.3508 inch. Shot by Ferris Pindell at Johnstown, New York in 1961.

Record aggregate for ten 10 shot matches at 200 yards—.5107 minute of angle. Shot by Homer L. Culver at Johnstown, New York in 1961.

Record N. M. C. aggregate for five 10 shot matches at each 100 and 200 yards—.4098 minute of angle. Shot by Sam Clark, Jr. at Johnstown, New York in 1955.

Record N. M. C. aggregate for 10 10-shot matches at each 100 and 200 yards—.4399 minute of angle. Shot by Cline Deere at Johnstown, New York in 1961.

WINNERS OF TOP-TWENTY PATCHES AT ALL CHAMPIONSHIP SHOOTS

Name	Number of awards	Years of winning
Paul O. Gottschall	7	1954-'55-'56-'58-'59-'60-'61
Ed McNally	7	1954-'55-'56-'57-'58-'59-'61
Irven Mohnkern	6	1954-'55-'57-'58-'59-'60
Robert W. Smith	5	1954-'56-'57-'58-'60
Chester Benjamin	4	1954-'57-'58-'59
George McMullin	4	1956-'58-'59-'61
Omar Rinehart	4	1955-'57-'60-'61
Henry Barton	3	1956-'57-'61
W. M. Brown	3	1954-'56-'58
L. F. Carden	3	1956-'58-'60
Homer L. Culver	3	1957-'60-'61
Wallace Hart	3	1955-'56-'59
Ted Holmes	3	1955-'58-'60

Donald Robbins	3	1954-'55-'57
Robert Stinehour	3	1959-'60-'61
M. H. "Mike" Walker	3	1954-'55-'59
Olive Walker	3	1954-'55-'59
Alfred Walter	3	1958-'60-'61
L. E. Wilson	3	1955-'60-'61
Clyde Yokey	3	1958-'59-'60
Gene Beecher	2	1954-'56
Brunon Boroszewski	2	1954-'56
Sam Clark, Jr.	2	1955-'57
Cline Deere	2	1954-'61
Al. Glendening	2	1959-'61
Charlie Hankins	2	1956-'58
Charles Hart, Sr.	2	1955-'57
Robert W. Hart	2	1959-'60
Harold Haynam	2	1957-'58
Lyle Heap	2	1958-'59
Clair Hollingsworth	2	1954-'58
John Hutchinson	2	1959-'60
Bernice McMullen	2	1956-'61
Warren Page	2	1955-'57
Dr. A. G. Parker	2	1958-'60
Ferris Pindell	2	1959-'60
Lawrence Rucker	2	1956-'61
Harold Shipley	2	1956-'58
Clair Taylor	2	1954-'57
A. H. Angerman	1	1961
Clarence Aumiller	1	1961
T. H. "Ted" Boughton	1	1955
Coleman Brown	1	1956
Peter Chagares	1	1955
W. S. Coleman	1	1956
Wm. E. Cotter	1	1959
Al Creighton	1	1957
Olin Davis	1	1961
Charles Debaugh	1	1959
Dave Derr	1	1954
S. Fairlee	1	1954
Harold Hale	1	1957
Clyde Hart	1	1959
John C. Hart	1	1960
Paul Hart	1	1955
Ferris Heffington	1	1960
Crawford H. Hollidge	1	1959
W. T. Hopfengardner	1	1957
Frank Hubbard	1	1954
George Kelby	1	1958
Joseph W. Looper	1	1958
J. McCrory	1	1957
Frank Murdock	1	1959
Chester Pluth	1	1961
I. E. Potter	1	1961
Horace E. Powers	1	1960
Ralph Pride	1	1955
Ross Pritt	1	1955
John Rives	1	1956
Stanley Savich	1	1959

Harvey Shaw	1	1954
Donald Smith	1	1958
Dr. James Smith	1	1956
Jack Snyder	1	1954
Raymond Speer	1	1956
W. N. Starks	1	1960
Eldon Stolle	1	1961
Ralph Stolle	1	1961
Williams Tardy	1	1957
Carson Teeney	1	1954
Leon Weld	1	1955
G. Wilkenson	1	1960
Mary Wilson	1	1956
Howard Wolfe	1	1957
Harold Zeiser	1	1957

STATISTICS OF ATTENDANCE

Western Shoots

Year	Place	Attendance	Increase or Dec.	Per cent
1954	Custer	87		
1956	San Angelo	68	-20	-23.0%
1958	Tulsa	65	-2	-3.0%
1960	Tulsa	76	+11	+11.7%

Last shoot compared to first:

Decrease of 13.8%

Decrease of 11 shooters

Eastern Shoots

1955	Johnstown	162		
1957	DuBois	139	-23	-14 %
1959	Johnstown	113	-26	-18.7%
1961	Johnstown	84	-26	-25.7%

Last shoot compared to first:

Decrease of 48.2%

Decrease of 78 shooters

NATIONAL MATCH COURSE AGGREGATE AVERAGES OF SHOOTERS WHO HAVE COMPLETED FOUR OR MORE AGGREGATES AT NATIONAL CHAMPIONSHIP SHOOTS

Rank	Competitor	Number of complete aggregates	No. of shots fired	Ave. M.O.A.
1	Omar Rinehart	5	600	.5658
2	T. H. Boughton	4	500	.5929
3	Robert Stinehour	4	500	.6139
4	Ed McNally	7	800	.6183
5	Ferris Pindell	4	500	.6203
6	Paul Gottschall	7	800	.6249
7	Homer L. Culver	5	600	.6336
8	Ralph Stolle	4	500	.6373
9	Leon Weld	4	500	.6403
10	Robert W. Smith	8	900	.6485
11	Wm. E. Cotter	5	600	.6558
12	Chester Benjamin	5	500	.6561
13	L. E. Wilson	4	500	.6656
14	Harold Zeiser	4	500	.6673
15	George McMullen	7	800	.6691
16	Olin Davis	4	500	.6706
17	L. F. "Bud" Carden	4	500	.6707
18	George Kelby	4	500	.6755
19	Warren Page	4	400	.6781
20	Edith Wenkenbach	4	500	.6829
21	John Hutchison	5	600	.6855
22	I. E. Potter	6	700	.6864
23	Clyde Yokey	5	600	.6925
24	Ted Holmes	4	400	.6939
25	Henry Barton	6	700	.6964
26	Robert W. Hart	7	800	.6967
27	Clyde Hart	4	400	.7013
28	John Collins	4	500	.7015
29	Crawford Hollidge	5	600	.7120
30	Irven Mohnkern	7	700	.7163
31	Harold Haynam	5	500	.7210
32	Lawrence Nuesslein	5	600	.7284
33	C. C. Hankins	4	400	.7319
34	W. Hopfengardner	4	400	.7340
35	Al Creighton	4	400	.7389
36	Lawrence Rucker	6	700	.7399
37	Bernice McMullen	7	800	.7407
38	W. M. Brown	7	700	.7409
39	Lyle Heap	6	600	.7520
40	Sigmind J. Gufca	4	500	.7532
41	W. S. Coleman	4	400	.7740
42	Brunon Boroszewski	8	900	.7758
43	Cline Deere	6	700	.7881
44	Chet Leech	4	400	.7959

(Continued on Page Twelve)

Statistics and Records

(Continued from Page Eleven)

45	E. L. Beecher	8	900	.8309
46	Andrew Brower	5	600	.8868
47	Dr. Rod Janson	4	400	.9520

In compiling these averages only those shooters who had four or more complete aggregates were used. If a shooter had attended five shoots and had been disqualified or didn't finish his aggregate at one shoot, he would be listed as having four aggregates. Credit for shots fired was used to give recognition to the 1961 shoot in which 200 shots were fired in the National Match Course.

Bench Rest Match Reports

(Continued from Page Ten)

action, was first at 100 with .745 and second in the grand with 1.0199 MOA.

AUGUSTA, OHIO

Seventeen competed in the first match of the season at Reed's Run Rifle Range in two days of foul weather, April 14th and 15th. Saturday was cold and windy with gusts up to 30 or 35 mph. Sunday was colder and snowed most of the day, at times so hard it was difficult to see the 200 yard targets.

Saturday, at 100 yards, the 5-shot matches were won by Lawrence Rucker .178, Bernice McMullen .209, Ralph Stolle .226, George McMullen .218, and Eldon Stolle .233. The 10-shot matches were taken by Harold Zeiser .587, E. Stolle .607, George Kelby (.30 cal.) .420, Ernest Scalfuri .524 and Lowell Shelt .422.

Sunday, at 200 yards, 5-shot match winners were B. McMullen .750, Shelt .591, R. Stolle .646, Paul Gottschall .856 and .673. The 10-shot matches were taken by G. McMullen .828, Shelt .970, Rucker .838, G. McMullen .982 and 1.147.

George Kelby, shooting a .30 cal. rifle, not only placed 5 times in the individual matches, but won the 100 yard aggregate with .624 ahead of Gottschall's .664, placed 2nd in the 200 yard agg. with 636 MOA and 2nd in NMC agg. with .630. George McMullen took the 200 yard agg. with .561 MOA and the NMC agg. with .628.

This was not a classed shoot, and although Reed's Run is known as a mechanical rests aggregation, out of 46 place awards to be won the sand-bag shooters took 30 of them.

ST. LOUIS, MISSOURI

The Bench Rest Rifle Club of St. Louis opened its 1962 match season April 29th with Sporter and Light Varmint class matches. Seven shot the Sporter matches and seven (not all the same shooters) fired the Light Varmint program.

The Sporter matches were fired in the morning beginning at 8:30 A. M. Conditions were fairly good for these matches, with the wind beginning to blow for the 200 yard shooting.

Arthur J. Freund, shooting a 6 m/m International in Hart barrel on Shilen action with a Lyman 8X Junior Target-Spot and load of 32 grs. 3031, CCI primer and 73 gr. bullets made in Bahler Die Shop dies, was 1st at 100 yds. with .621 agg., 1st at 200 with .8745 and won the grand agg. with .748 MOA.

Arthur M. Freund, A. J.'s son and the club secretary, shooting a 6 m/m Int. in Douglas barrel on Remington action, with 8X Weaver scope and load of 31.5 grs. 3031, CCI primers and 73 gr. bullets from Bahler dies, was 2nd at 100 with .837, 2nd at 200 with 1.0565 and 2nd in the grand with .947 MOA.

James White, shooting a .244 Remington in Holmes barrel on Mauser action with load of 41 grs. 4064, CCI primers and



The new Indian Mountain Range at Hot Springs, Arkansas, where the Hot Springs Gun Club held their inaugural bench rest shoot on April 29th. Bullet-stop mound and 200 yard butts in the distance. Posts at the 100 yard target point are visible. The bottle of water sits on one of the benches.

70 gr. bullets made in S. A. S. dies, was 3rd at 100 with .856, 3rd at 200 with 1.1815 and 3rd in the grand with 1.019.

The Light Varmint class matches got under way at 1:00 P. M. By this time the conditions had gotten around to the normal match day; a 10 to 20 mph wind from the east and heavy mirage with temperature about 75°.

A. J. Freund shot the same gun and load, except for changing to a 15X Litschert scope, to win the 100 yd. agg. with .577, place 3rd at 200 with 1.217 and win the grand aggregate with .897 MOA.

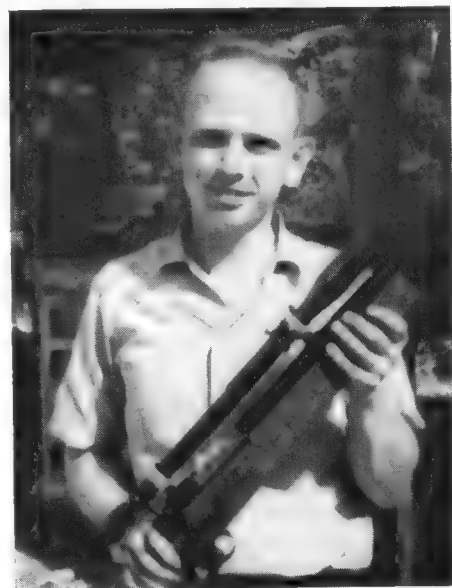
Leo H. Fieser, shooting a factory Sako .222 with Unertl 16X scope and load of 21 grs. 4198, Western primers and Sierra 53 gr. bullet, made a 4th place 100 yd. agg. of .795 but won the 200 yd. agg. with 1.0135 to give him 2nd in the grand with .904 MOA.

Frank Muriel, shooting a factory barreled .222 Rem. in stock he made from a Fajen blank, with 16X Unertl scope and load of 20.5 grs. 4198, Remington primers and 52 gr. Freund bullets, was 2nd at 100 yds. with .712, 2nd at 200 with 1.154 and 3rd in the grand with .933 MOA.

HOT SPRINGS, ARKANSAS

The Hot Springs Gun Club held its inaugural registered bench shoot, for Varmint and Sporter rifles, on their new Indian Mountain range, one mile outside the city of Hot Springs, Arkansas, on April 29th. There were 9 competitors in Varmint class and 3 in Sporter class (Tom Gillman, the club secretary, shooting in both classes). The weather was clear and bright but with a gusty 10 to 20 mph fish-tail wind to plague the shooters.

Tom Gillman won the grand aggregate in both classes. With Varmint rifle, shooting a 6 m/m Cotter in Douglas barrel on Enfield action with Unertl 10X scope, he was 2nd agg. at 100 yds. with .5774, 1st at 200 with .8694 and won the grand with .7234 MOA. With his 6 m/m Special sporter (Douglas barrel on Springfield action with Lyman 6X scope) he was 2nd at 100 yds. with .8968 and 1st at 200 with .8033 for a grand agg. of .8500 MOA.



Thomas E. Gillman, Secretary-Treasurer of the Hot Springs Gun Club and aggregate winner at the Club's inaugural match.

L. E. "Red" Cornelison, with his own 220 version in Douglas barrel on Sako action, shot smallest 100 yard aggregate of .5560 in Varmint class and as 3rd in the grand with .7474 MOA. Jack Morgan, shooting a 222½ in Gregory barrel on Sako action, had smallest 200 yard aggregate of .6667 and was 2nd in the grand with .7266.

A. H. McDonald, shooting a 6 m/m Cotter in Douglas barrel on Springfield action and load of 17.2 grs. 4759 powder and Sierra 60 gr., H. P. bullet, had smallest 100 yd. agg. in Sporter class, a .8401.

RICHMOND, CALIFORNIA

Shooting a registered 200 yard night shoot on May 5th at the Richmond Rod and Gun Club range, Chester Pluth, Lakeport, Calif. shot a five 10-shot match aggregate which John Sweany, maker of the Sweany Reticle Rules, measured as .3168 MOA. The targets and backers have been



L. E. "Red" Cornelison from Seminole, Oklahoma.

submitted to the NBRSA Judging Committee for judging as a probable new record. Pluth was shooting the 222 Mag. cartridge in his Hart barrel and action rifle and his scope was a 36X Unertl.

Felix Marincovich, Lodi, Calif., shooting a 222 Mag. in Hart barrel on Weber action with Unertl 36X scope, was runner-up in the unrestricted rifle class with a .5128 MOA aggregate. Joe McPhillips, shooting another Hart barrel on Weber action but chambered for the .219 Don, was 3rd agg. with .5394 MOA. Five shot in the heavy rifle class.

Shooting against 8 other competitors in Heavy Varmint class, L. E. Puett, Lakeport, Calif., with a very well tuned-up Remington factory rifle in standard 222 Rem. caliber, and in his second formal bench rest competition, fired the winning aggregate of .4177 MOA. Allen Hobbs, shooting a 219 Don in Hart barrel on FN action, was 2nd with .5245 and Leonard Shepherd, San Rafael, shooting a 222 in Douglas barrel on Rem. 722 action, was 3rd with .5538 MOA.

Only 4 fired in Light Varmint class. E. P. Hinkle, St. Helena, shooting a Sako factory barrel and action which he had restocked, won the aggregate with .8081. Joe McPhillips, shooting another factory Sako, was 2nd with .8235 MOA.

MODESTO, CALIFORNIA

It was a beautiful sunny day in Modesto on Sunday, April 15th when the Modesto Rifle Club held its 4th annual benchrest tournament. The wind was calm at times and the mirage not too bad, resulting in some good groups being fired.

The course of fire was four 5-shot groups and two 10-shot groups at 200 yards. There were 6 competitors in Open Benchrest class, 7 in Heavy Varmint and 6 in Light Varmint class.

George Hendricks, Etna, was the aggregate winner in the Open class with .557 MOA. Felix Marincovich, Lodi, was second with .749 MOA. Henry Smith, Lodi, shot smallest 5-shot group of .687 inch with his 220 Swift.

Allen Hobbs, El Cerrito, was Heavy Varmint class aggregate winner with .981 MOA. John B. Sweany, Calistoga, was 2nd with .996. Leonard Shepherd, San Rafael, fired smallest 5-shot group of .973 inch.

In Light Varmint class, R. J. McDougall, Lodi, won the aggregate with 1.3318 MOA. Duane Jenner, Modesto, had 2nd aggregate of 1.3323 MOA and fired smallest 5-shot group of .759 inch.

(Continued on Page Fourteen)

TIGHT GROUPS and CCI PRIMERS

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says H. B. Reagan, Big Springs, Texas



**5-SHOT GROUP MEASURED
.2038"—100 yards, Sporter
Rifle, NBRSA Shoot,
San Angelo, Texas.**

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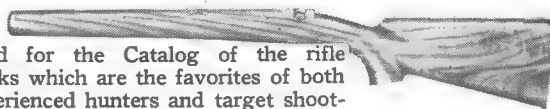
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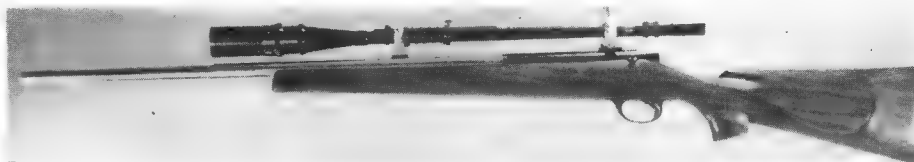
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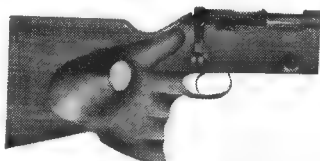
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The Dryden, N. Y. and South Creek, Pa. clubs fired their winter bench rest league matches from the porch of this clubhouse at Breesport, N. Y.

Bench Rest Match Reports

(Continued from Page Thirteen)

Trophy awards were made to 1st, 2nd and 3rd in each match, 1st through 5th in the aggregates plus plaques to smallest group in each class. There were also some valuable merchandise prizes, such as RCBS Jr. press (to Russell Lacque), Sweany Site-A-Line (to Duane Jenner), George Fullmer chambering job (to George Hendricks) and others.

SOMETHING TO THINK ABOUT

By Ed. McNally

Ever since the first National Benchrest Championship at Custer, South Dakota, in 1954, I have been dismayed by the extreme penalties and disheartening experiences suffered by shooters who have travelled great distances at considerable expense, only to be disqualified or so hopelessly disheartened by a wide shot as to be the same as disqualified.

This situation is present at every benchrest shoot because of several **NECESSARY** rules:

1) The group is measured from center to center of the widest shots.

2) A shot outside the border and not touching the line disqualifies the target for match and aggregate.

3) The group must be completed within the time limits, no exceptions allowed.

4) Less than the required number of shots disqualifies the target for match and aggregate.

All of these rules have had very careful study by our Directors from the beginning of our organization and it would be difficult, if not impossible, to appreciably alter them without creating a new situation that would be worse than what we now have. I honestly believe it would be dangerous to attempt to change these rules to any great degree.

The irony of it all is that a great many of the disqualifications and disheartening experiences have been caused by circumstances over which the shooter had no control whatsoever and resulted only in causing the competitor grief without contributing to the success of the shoot or the aims of the N. B. R. S. A.

Let's take the four rules mentioned above and list factors that can cause a violation.

1) **The wide shot:** Error in judging the wind (shooters fault). Poor hold or let-off (shooters fault). Poor primer (not the shooters fault). Split case neck (not the shooters fault). Bad bullet (not the shooters fault). Faulty powder charge (could be shooters fault or not). Muzzle blast from bench next to shooter (not the shooters fault). Faulty scope (not the shooters fault). Loose scope mount (maybe the shooters fault). It also could be a gun that throws all shots wide but this kind

A BENCHREST WINTER LEAGUE

Last winter the South Creek Rod and Gun Club (Pa.) and the Dryden Fish and Game Club (N. Y.) formed a winter league for Varmint Rifles and held shoots on alternate Sundays throughout the winter. There were thirty competitors in this league and aggregates were established for those who shot in five or more matches. The aggregates were:

1 Jerry Arnold	.470
2 Harry Bente	.476
3 Art Blensingher	.478
4 Ross Sherman	.486
5 Paul Kempfer	.506
6 Chet Andrews	.509
7 Harry Kintz	.528
8 Clyde Bonnell	.561
9 Norm Fahr	.618
10 Ed Shilen	.637
11 Ray Wilson	.709

Most of the time the wind was blowing hard and the scores were surprisingly good for being shot under those conditions. A lot of the shooters were building new guns and testing them in the matches, which accounts for some of the better shooters having rather high aggregates. On the last match of this winter league Norm Fahr shot a .200 group (5-shots), this being the smallest group fired during the winter.

At the close of the league season a banquet was held at the Hichory House in Elmira, N. Y. which was attended by twenty-two couples. Harry Bente of Ithaca, N. Y. was toastmaster and did his usual fine job of entertaining everyone.

This was the second year for this league and we hope to have another next winter.

Jerry Arnold

of gun wouldn't be corrected by the suggestion I will make later in this article.

2) **Shot outside and not touching border:** Error in judging wind (shooters fault). All of the other factors listed above for a wide shot, whether shooters fault or not. An unseen sighter shot hidden by printing at top of target—might even have been by another shooter (not the shooters fault). Wide first shot that required the shooter to flirt with disaster the entire string of ten shots.

There are many instances of this last mentioned situation. I even know of one instance where a shooter was disqualified although he had the **SMALLEST GROUP OF THE MATCH**. This was a 200 yard match. The shooter's first shot went unaccountably wide and cut the border line. He had to chase it for the remaining nine shots. He kept nine shots in legal territory but one was outside the line. He was disqualified even though his group, measured center to center of the widest shots, was the smallest in the match.

3) **Group completed within time limits:** Shooter waited too long for condition (shooters fault). Shooter late in getting to firing line (shooters fault). Bullet stuck in bore because of no powder in case (may be the shooters loading fault but is not a shooting fault). Mechanical failures of triggers, bolts, scopes etc. (not the shooters fault). Loose powder in chamber caused by bullet pulling loose when ordered to open bolt by the rangemaster (not the shooters fault). Not hearing the rangemaster's two minute warning.

4) **Less than the required number of shots in backer:** Bullet exploded enroute to target (not shooters fault). Attempt to cheat (shooters fault but very unlikely since introduction of moving backer target). Mix-up in sighter shells and record shells (the shooters fault but not a shooting fault). Just a poor mathematician. Faulty backing target. Shooter shot entire group too fast for backing target.

There undoubtedly are many other factors that might cause violations of these rules but I have listed only those that I can remember as having happened to my own knowledge. None of these are imaginary; they all have happened at shoots I have attended and in many instances I have been required to rule on them and disqualify the shooter, under the rules.

In addition to the incidents already listed, any shooter who has been to many shoots knows that there are relays when the weather conditions are so much worse than at any other time during the shoot that competitors who are unlucky enough to be caught in them might just as well have stayed at home, as far as having any chance at the aggregate.

Benchrest shooting has been formulated as it is for the purpose of eliminating luck, both good and bad, removing the variables wherever possible in order to determine how well a rifle can be made to shoot and how well a shooter can shoot it. We should, wherever possible, either eliminate or offset any effects that tend to deviate from these purposes.

The principal benefits that we benchrest shooters get from our game is the pleasure we get in being a competitor during the entire shoot. Any set of circumstances that subject any of the shooters to unnecessary or extreme penalties is hurting the game.

While I have been aware of this situation for a long time it was not until recently that I realized the extremely high percentage of shooters that are regularly suffering from it.



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At the request of our President, Bob Hart, I recently undertook the job of analyzing all of the National Championship shoots for statistics and records at the National shoots. In the course of getting the data from the dope sheets of the eight National Championships I was dumbfounded at the high percentage of shooters who were disqualified. Believe it or not but here are the facts:

Custer	1954	24.1% disqualified
Johnstown	1955	14.2% disqualified
San Angelo	1956	7.7% disqualified
DuBois	1957	15.1% disqualified
Tulsa	1958	15.4% disqualified
Johnstown	1959	8.0% disqualified
Tulsa	1960	10.5% disqualified
Johnstown	1961	17.8% disqualified

Total for the eight Championships—14.1% disqualified. This means that one out of every seven shooters that have gone to our Championship shoots has been disqualified. When you balance that against the facts that those shooters have traveled great distances and spent considerable money to attend only to be thrown out of competition, sometimes the first day, often through no fault of their own, it's not a pretty picture. It certainly is no incentive to attend a far-off shoot and I can't see where it contributes to the aims of our Association.

Bear in mind that these figures are only for those who disqualified through one or more of the four rules first listed or who

(Continued on Page Seventeen)

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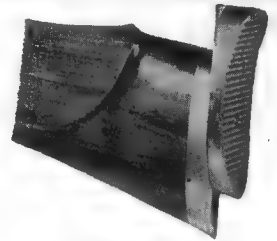


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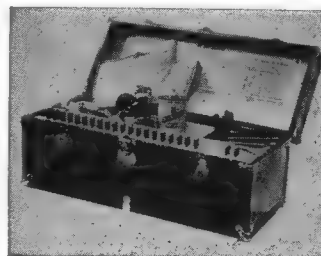
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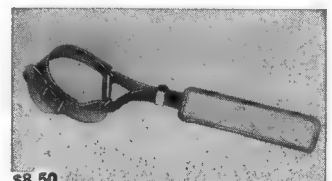
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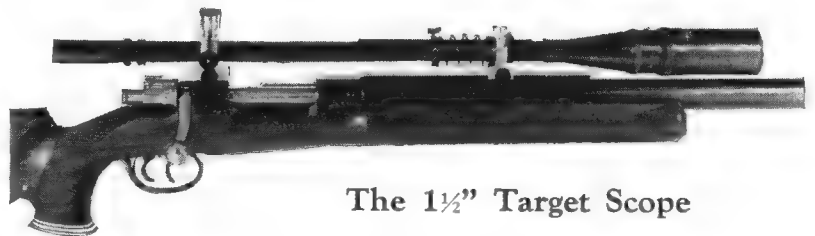
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Something To Think About

(Continued from Page Fifteen)

gave up in disgust after they had an extremely wide or unaccountable shot. In addition to them there must have been as many, or almost as many who had such wide shots but continued even though they knew from that moment that they did not have a chance at the aggregate and were shooting with practically all the pleasure eliminated.

Early in this article I said that the present rules are necessary and that it would be dangerous to make changes in them, of a drastic nature. I still say that we can't change these rules without great danger of new and worse problems. We will have to suffer these penalties as far as the individual match is concerned but I do see a simple and yet logical solution whereby we can retain the rules and at the same time dilute the extreme effect of them as far as the aggregates are concerned. We don't have to throw the shooter out of competition.

At our National Championship shoots and at many other registered shoots, it is customary to open the N. M. C. with a warm-up match of ten shots and then have five 10-shot matches following it. The aggregate is figured from the last five matches. In other words, we shoot six matches and count five towards the National Match Course.

If we were to shoot the same six matches, but in every instance eliminate the poorest group of each shooter, counting only the five best towards the aggregate, we still would be counting five out of six as we do now but by so doing we would be giving the disqualified shooter a chance to stay alive for the aggregate, would be diluting the effect of the many factors that the shooters are not responsible for and in my opinion would be following the intent and purposes of the Association.

In view of the fact that disqualifying shots, or shots having the effect of eliminating the competitor from a chance at aggregate, probably are traceable to faults over which he has little or no control, in most instances, we are not determining the best gun or the best shooter if we continue the extreme penalty. If we allow some leeway for the variables we can't control we will be obtaining a better criterion as to the best gun and the best shooter.

I realize that this suggestion is not without its drawbacks but the point to keep in mind is whether the beneficial effects of it are of greater benefit to the game than the drawbacks it creates.

Some undoubtedly will say it isn't done in any other shooting game. I can't say as to that because I don't know. To me that's not a sound argument if it helps our game. I know that similar situations are present in other sports. In pole-vaulting, shot-putting, javelin and others, the athlete gets credit for his best effort. The

group sizes and measure from center to center of the widest shots, the best you can hope for after the second shot is that you are no worse off than you were after the second shot. One shot can disqualify you and one shot over four days of shooting can under the present rule completely eliminate you from any chance at aggregate.

This one shot that can eliminate you from aggregate is sometimes solely the shooter's fault but in many instances it is either only partially his fault or no fault whatsoever traceable to him. Let's take the coldest possible view of this situation. Let's say one shot in two days or four days shooting puts the competitor out of the race for aggregate. Let's concede that it was all his own fault. Let's also remember that what we are trying to do is to perfect the perfect gun as well as to determine who can best shoot it.

Now, honestly, which is the best and sanest criterion of the quality of the gun and the skill of the shooter:

The 99 shots of a two day shoot (199 of a four day shoot) that were right in there

or

the one shot in two or four days that either completely disqualified him or put him so far out of the running as to have the same effect?

At first thought it might seem that by picking the five best from the six matches we are making it easier for ourselves. If you'll do a little research you will be in for a big surprise. It tightens up the aggregates, keeps more in the running, thereby making it tougher to finish on top. I went through the entire program of the 1961 Johnstown shoot, eliminating for each competitor his largest group for each of the four days (in instances of disqualification, eliminating that target) and then refigured everybody's aggregate. Here are the results of that recap:

It didn't change the Championship, Cline Deere still won it, but it did make these significant changes.

The low aggregate was .3677 M.O.A. instead of .4399 M.O.A. The highest aggregate of the shoot dropped to .8684 M.O.A. from .9853 M.O.A.

Three shooters moved into the Top-Twenty and three dropped out. Eight shooters who disqualified but who stayed and finished the course of fire went into 29th, 34th, 44th, 59th, 61st, 63rd, 67th and 75th places instead of being left out. The others who disqualified but didn't finish, or who had wide shots early and didn't finish, weren't helped but if such a system had been in effect they, too, would have been helped.

It may seem as though there is a big difference between specifying the first match as not counting, as against waiting until the end of the day and picking the poorest target. It might seem as though

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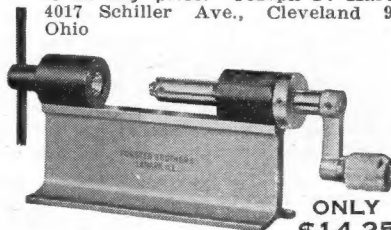
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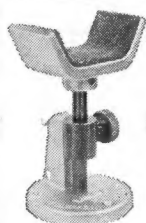
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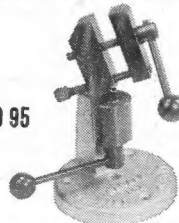
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Stool Shootin' Stuff

(Continued from Page Nine)

If you can reach out to 200 yards for your firing, by all means do it. Perhaps that will pay you big dividends and we who shoot our fine guns from benchrest should expect to make some pretty tight groups on good days, but on those which are not choice, we will learn just how far out of the group a little let up in wind or an increase in velocity will affect our bullet. If we are careful enough in getting the parallax out of our scope at 200 yards, we should be able to hold and see sufficiently well to have our aiming image as sharp and clear as at 100 yards. Even though we do, the laws of physics take over and old man external ballistics has his day as the distance increases. If there are errors in sighting, they are multiplied, and so will the errors caused by bullets that are out of balance or variations in pressure whether caused by powder or primers. It would be nice if we could but double the velocity as we double the range so that the effect of time on the bullet would be the same but many of us are also too prone to shoot at top velocity. I know of no instance where any of my good guns will shoot their best at the maximum powder load that the case will hold. This can pretty generally be said for all types of cen-

ter fire rifles and the accuracy falls off long before the cases begin to show sufficient pressure to indicate that the limits of elasticity have been reached. Not only do we lose accuracy from the attempt to get too high velocity but we pay for it dearly in terms of barrel life.

The Magnum cartridge may be a flat shooter and a great killer and one might say it is in high fashion today but I doubt if everybody realizes the high price one pays for shooting them in comparison with a cartridge that would kill game just as dead at the average range and will just as frequently hit the mark at which one is shooting. I don't want to give the impression from the foregoing that barrel wear is to be feared as much as most people think. Barrels do undoubtedly wear out but with reasonable care, it takes an awful lot of shooting. I recently had a good opportunity to observe how long a barrel will wear when removing one from Merrie's heavy benchrest rifle. It was a stainless steel from Johnson Automatics Associates of Hope Valley, Rhode Island. It was one of the first progressive twist barrels in that steel, and with it, Merrie won many matches. Bill Cotter threaded and chambered it four years ago to match measurements he had taken on a previous barrel for that action. He mailed the barrel to me and from the minute I screwed it into the action, the rifle indicated its superiority. It hardly shot a bad group in its life time of many thousand rounds until late last fall when Merrie's groups started to about double their size. I admit she had some reason to blame me because a week or two previously I had sold her 32X Unertl scope to please a fellow who couldn't wait a few days for delivery. I thought she would get used to the B & L 24X shortly but I couldn't convince her that she didn't like the Unertl better. However, we were both surprised to find that after her new scope came, the groups were still larger than they should have been. As a result, one day this spring, I gave the inside of that barrel a thorough going over and saw two deep almost vertical scratches through two lands just beyond the throat. I have no idea what caused them. I am pretty careful about the cleaning rod I use and I am also very careful not to get any grit on the patch but whatever scratched this barrel was really hard. It looked to me as though some foreign substance had gotten into an open case and had been blown out by the bullet or else something had dropped into the barrel on top of a bullet. Of course, Doc Garcelon has been kidding Merrie for a couple of years about coming to the matches and outshooting Yours Truly, and him, too, occasionally but in spite of Doc's complaint that a woman's place was in the kitchen, I don't believe he would pour gravel in an open case or barrel! I sawed off the bad part of the barrel and made a fine varmint rifle out of it. When I examined the scratched part after sectioning it, I was very favorably impressed with the way the barrel had stood up under so many firings.

In some of the foregoing paragraphs, I have warned about high velocities and I am reminded of a recent note that I received from George Fairchild of CCI primers. I am very fond of their new 250 Magnum primer because it has given me fine performance in a number of different cartridges. I long ago came to the conclusion that a very accurate load was usually one that burned the powder very close. Note that I have said burned because high pressures and hot loads don't necessarily leave the barrel free of partly burned powder, and when bullets, round after round, iron this powder into the barrel, not only is the flight

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WANTED: PRODUCT. Reilly Machine Works, 445 Western Avenue, Albany, New York.

HIGH VELOCITY TRAJECTORIES
String chart displays all curves, 2700-5000, 500 yds. Professional-size—1/2 actual drops. "Poor Man's Chronograph"—determines ballistic coefficient. Read-out easy. Confirms shooting tests. \$18.00 p. p. Descrip. free. Pressure by Chronograph Charts \$10.00 p.p. Powley Computer for Handloaders \$3.50 p.p.

MARIAN POWLEY
17623 Winslow Rd., Cleveland 20, Ohio

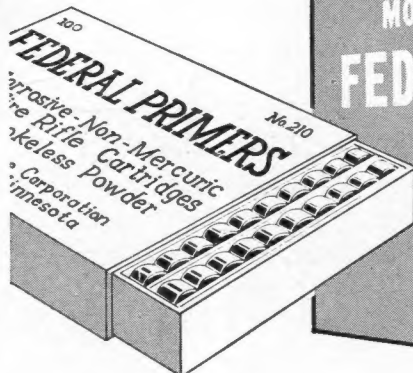
of the bullet adversely effected but the barrel begins to seriously suffer from powder fouling, and accuracy becomes progressively harder to attain. It was natural that the CCI primer people, when announcing a Magnum primer, would find many of their customers who first tried it, to be high velocity load enthusiasts. Now, there is a difference between an expert and an enthusiast although in certain instances, one might be both but I am thinking of the slap happy hot loader enthusiast who believes that he will do better if he puts all the powder he can into the case and then adds to it the hottest primer he can get. Too frequently this kind of a fellow is not alert enough or smart enough to drop down a few grains below normal and work up to the hot load. These new primers are just more efficient and burn all of the powder better in the new load, and such increase in pressure as occurs is due to the greater efficiency of the burning powder rather than the pressure component contributed by the primer. This common sense rule of working up to a maximum load slowly applies to all primers, all cases and all powder. It is so rudimentary that all should recognize it and be alert to the hazards of doing otherwise. A beginner heeds these warnings usually but it is most interesting to note that those who do not are very often fellows who have been loading and shooting for a long time. There is an old saying that familiarity breeds contempt but if there is any use for a fellow my age to give advice, it would be that there is no place in reloading for contempt. Every gun accident brings disrespect to the reloader, and a new rash of restrictions and anti-gun legislation.

Cordially yours,

Ernest Stuhlschuter

Ernest Stuhlschuter

We don't have to make elaborate claims...
FEDERAL PRIMERS have proved their dependability, high quality and performance



MORE THAN **5 BILLION**
FEDERAL PRIMERS

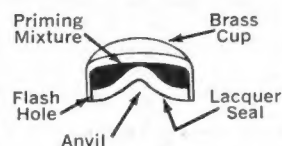
produced for U.S. Govt. and private use proves **FEDERAL'S** manufacturing know-how!

There is no substitute for experience. When you realize that Federal Cartridge Corporation has made and sold over 5,000,000,000 (five BILLION) primers, what better evidence can you ask to prove their quality and dependability. Federal experience means shooting satisfaction.

Federal Primers give you consistently uniform ignition — the prime requisite for accurate shooting. Neither temperature changes nor humidity changes can alter this uniformity. Independent ballistics laboratories have subjected these Primers to a temperature range of +140°F. to -60°F. and found *no variation in performance*.

Federal Primers are non-corrosive, non-mercuric and dependably stable. Put your trust in Federals — as many of the outstanding bench rest shooters do. Check the records.

Made in the U.S.A. where labor receives an ample salary.



IDENTIFICATION

No. 210 Large Rifle Primers — Brass Cup — RED printing on carton

No. 200 Small Rifle Primers — Nickel plated cup — BLUE printing on carton

No. 150 Large Pistol Primers — Copper plated cup — BLACK printing on carton

No. 100 Small Pistol Primers — Brass cup — GREEN printing on carton

retail price

\$8.00 per 1,000

See your Federal Dealer

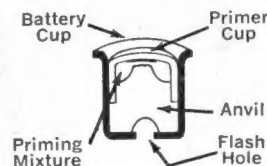
FEDERAL NO. 209 SHOT SHELL PRIMER

This is a "battery cup" primer—charged with Federal's non-mercuric, non-corrosive, extremely stable patented priming mixture—the same priming mixture as used in Federal's Hi-Power and Monark shotgun shells. Packed 100 to a box, 10 boxes to a carton.

FEDERAL Sporting Ammunition

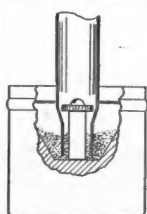
Hi-Power and Monark Shot Shells and .22 Caliber Cartridges

Federal Cartridge Corporation • Minneapolis, Minnesota



retail price

\$14.50 per 1,000



Re-loaders

Your choice of the best dry lubricants is supplied in the "SURE-MARK" CASE LUBRICATOR. Just the right amount—Microfyne graphite, Motor Mica or Molykote—is applied to the case neck without mess or bother. Complete unit with burnishers for all calibers from .22 to .45 with Microfyne or Motor Mica \$1.00; Molykote \$1.25, postpaid.

Wilkins & Schultz, Inc.
Box 334, Barrington, Ill.

The Gunsmith BLACK FINISHING UNIT

Made especially for the man who wants to do the best in firearm refining — for himself or for profit. This same process is used by manufacturers. Comes complete with tanks, burners, supply of

PENTRATE crystals, instructions and all equipment needed. Write for details.



HEATBATH CORPORATION

Springfield 1, Massachusetts



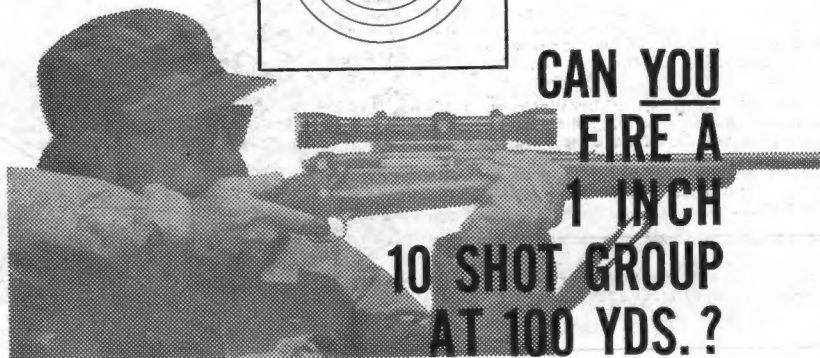
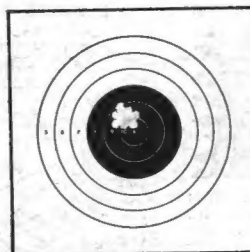
TOOL COMPLETE
WITH ONE SET
OF STUBBY DIES
\$34.75
FOB FAC.

**SAECO
MATCH PRECISION
RELOADING TOOL**
with SAECO STUBBY DIES

A completely new design concept introducing the economical and versatile stubby dies and pat. appld. for concentric, in-line priming. Send for our literature on this and our other quality products for the particular handloader.

"There is no economical substitute for quality"

SANTA ANITA ENGINEERING CO.
OF CALIFORNIA
3270 E. FOOTHILL BLVD.
PASADENA



**CAN YOU
FIRE A
1 INCH
10 SHOT GROUP
AT 100 YDS.?**

If you can, you may qualify for a SIERRA EXPERT AWARD.
You will be entitled to receive:



1. A Bronze Lapel or Cap Pin
2. A Colorful Brassard
3. An Official Certificate for framing

Using Sierra Bullets you may fire from any position, except machine rest, with any make or caliber of rifle whose weight, with 6-power scope, does not exceed 10½ lb.

Before you shoot be sure and get complete rules and a FREE entry blank from your SIERRA DEALER.

SIERRA BULLETS INC.

600 West Whittier Boulevard • Whittier, California

DOUGLAS ULTRARIFLED BARRELS

WORLD'S FINEST PRODUCTION MADE RIFLE BARREL

The quality of DOUGLAS barrels has been proven many times on the target and in the field, both big game and varmint shooting. These barrels hold many records on the target, in bench rest, big bore, and small bore target work. We receive new reports all the time, attesting to their excellence, from the target shooter and hunter. We feel that we are making the finest production made rifle barrel available in the world today. Further, our wide range of sizes and weights, variety of calibers, deliveries, prices and discounts to gunsmiths, add up to a service that is not available from any other barrel maker in the land.

AND NOW DOUGLAS OFFERS CUT-RIFLED MUZZLE LOADER BARRELS

We feel these to be the finest muzzle loader barrel blanks available anywhere regardless of price. Made from octagon shaped steel with a smooth cold rolled finish. They will finish up to 42" long, rifled with 8 lands and grooves in one turn in 48". Available in 32, 36, 40, 45 and 50 caliber. Made in three sizes 7/8", 1" and 1 1/8" across the flats. 50 caliber barrels available only in 1" and 1 1/8". Any size and caliber listed for only \$27.50. Subject to regular gunsmiths discount.

WRITE FOR FREE LITERATURE ON THESE BARRELS AND THE OTHER FINE BARRELS THAT WE MAKE.

G. R. DOUGLAS CO., INC.

5504 Big Tyler Road

Charleston 2, W. Va.